Service
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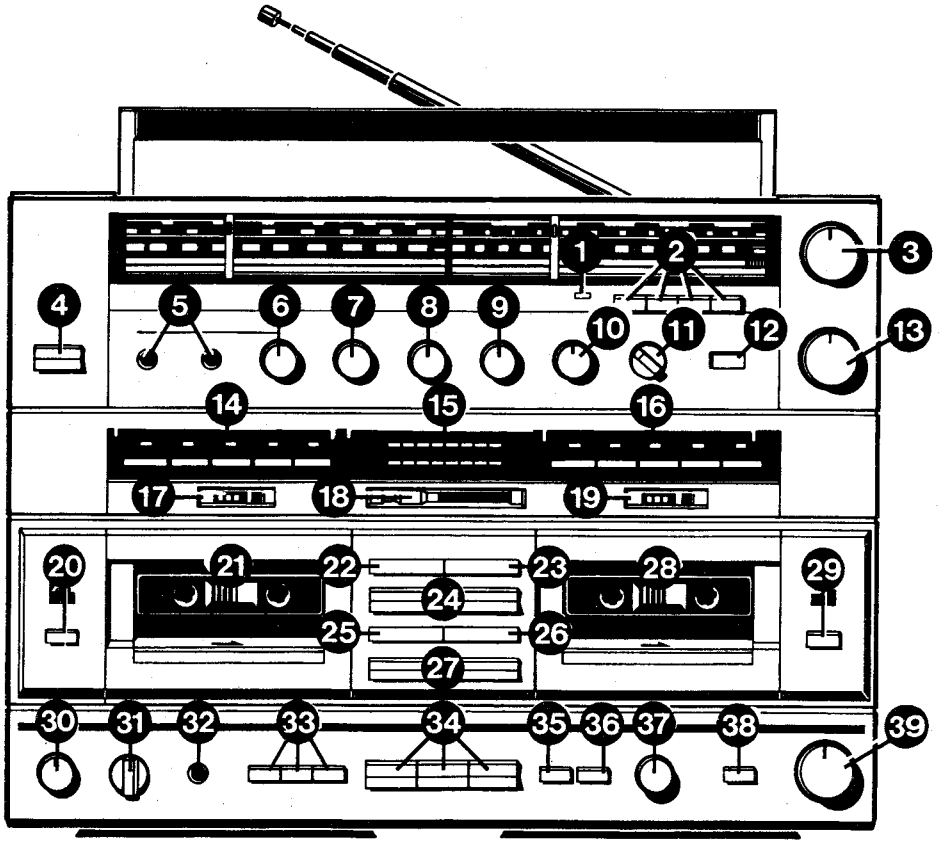
Service Manual



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Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçio

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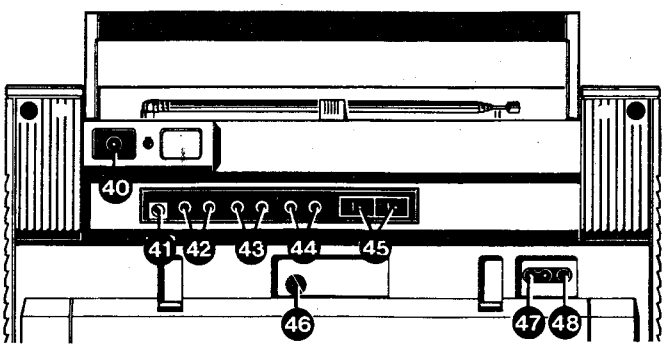
PHILIPS

CONNECTIONS AND CONTROLS

1		„stereo indicator"	D180
2	FM-SW-MW-LW		SK101÷104
3		„tuning"	C100
4	O ●	„power ON/OFF"	SK501
5		„external mic"	BU501-BU502
6		„micro-mixing"	R514/564
7		„balance"	R237
8		„bass"	R225/275
9		„treble"	R228/278
10		„mono-stereo-spatial"	R236
11	source	„phono-aux-radio-tape"	SK-9
12	Loudness ON/OFF		SK-8
13		„volume"	R230/280
14		„Deck A, function indicators"	D701÷704,D726
15		„VU-indic. L-R tuning/rec, power on/off batt. check"	D760,766 D772,786
16		„Deck B, function indicators"	D730÷734
17	Tape counter	„Deck A"	
18		„Fader control" Deck A, Deck	R712,713
19	Tape counter	„Deck B"	
20		„Eject Deck A"	
22		„pause"	SK906
23		„rec" (deck B only)	SK902
24		„Play"	SK904
25		„Rew/Review"	SK905
26		„FF/Cue"	SK901
27		„Stop"	SK903
29		„Eject deck B"	
30		„Headphone volume"	R342/392
31	Source	„Deck A, source, deck B"	SK304
32		„Headphone"	BU301
33	Tape select	„Normal-Cr02-metal"	SK301÷303
34	Deck selector	Deck A, deck A+B, deck B	SK305-306
35	Stand by	„Dubbing"	SK307
36	Speed select	„Normal" 4.76 cm/s „High" 9.52 cm/s	SK308
37		„Fader deck B"	R341/391/SK10
38	Mode	„A.L.C./manual"	SK309
39		„Rec-manual"	R306/356
40	75 Ω	„External antenne"	BU101 (only for /00/05)
41		„Ground connection"	
42		„Md phono line in"	BU4-BU5
43	Aux	„Aux line in"	BU6-BU7
44		„Line out"	BU8-BU9
45		„External loud sp"	BU10-LS1/LS2 BU11-LS101/LS102
46	Δf	„Rif"	SK402
47	V~	„Mains inlet"	BU601/SK601
48	V⎓	„External supply"	BU602/SK602



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SPECIFICATIONS

V⎓	; 10-16 V	ext. speakers L-R; 4 Ω 5 W sin-10 W peak
	; 15 V (10xR20)	200 Hz-12 kHz within 10 dB two speakers:
	220 V, 50/60 Hz (240 V, 50/60 Hz for D8734/05)	LS1/LS101 7" woofer LS2/LS102 piezo tweeter
	2x4 W - 1 dB d ⩽ 10%	

Headphone Amplifier 30 Hz - 15 kHz; within 6 dB
1 mW (8 Ω) ÷ 10 mW (600 Ω) d ⩽ 10 dB

IF-FM : 10,7 MHz
IF-AM : 468 kHz ± 1 kHz
FM : 87,5 - 108 MHz $^{+0,5}_{-0,3}$ MHz
SW : 5,95 - 17,9 MHz
MW : 520 - 1605 kHz
LW : 150 - 255 kHz

Tape speed: Normal 4,76 cm/s ± 2% (15-35°C)
High 9,52 cm/s ± 2% (15-35°C)

Wow and flutter ⩽ 0,3% (4,76 cm/s)
Bias freq. (SK402 „0") 73 kHz

Frequence response 50 Hz - 10 kHz ; normal
(for deck B at 4,76 cm/s 50 Hz - 13 kHz ; Cr02
and within 8 dB) 50 Hz - 15 kHz ; metal

Dubbing deck A to deck B		**4,76 cm/s**	**9,52 cm/s**
Within 10 dB for	normal	80 Hz - 10 kHz	80 - 8 kHz
Deck B and reference	Cr02	80 Hz - 12 kHz	80 - 10 kHz
cassette in deck A	metal	80 Hz - 13 kHz	80 - 10 kHz

Input sensitivity (acc. UAN-0170)	Exet. microphone	0,3 mV/4k7 Ω BU501/502
	Phono-MD	3,5 mV/ 47 kΩ BU4/BU5
	Aux/line in	150 mV/470 kΩ BU6/BU7

Output	line out	BU8/BU9 ⩾ 500 mV/10 kΩ
	loudspeakers	4-8 Ω BU10/BU11
	headphones	8 Ω ÷ 600 Ω BU301

DECK-B

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Playback speed	3150 Hz of SBC126Cr	Play SK306 on Tape	—	BU9 (BU8)	Wow- and flutter meter	R804	*a 4,76 cm/s
Azimuth R/P head	10 kHz of SBC126Cr	Play SK306 on Tape	—	BU9 (BU8)	mV-meter	Left screw R/PB head	Max. output + outp. L ≈ outp. R
Erase oscillator frequency	—	Tape, Rec SK306 on ◯ R306 R356 SK402 „0"	—	MP-3	Frequency counter	S401	73 kHz ±200 Hz
BIAS	—	SK302 on Tape, Rec SK306 on ◯ R306 R356 SK402 „0"	—	MP-1 (MP-2)	mV-meter	R441 R491	6 mV ±1.5 dB
Playback sensitivity + Led ind	SBC126Cr 315 Hz- 0 dB	Tape Play SK306 on	—	BU9 (BU8)	mV-meter Led ind	R407 R457	L/R 650 mV±2 dB = L/R Led ind+ 3 dB
Playback Freq. Response	SBC126Cr 40 Hz- 250 Hz- 6.3 kHz- 12.5 kHz	Tape Play SK302 on SK306 on	—	BU9 (BU8)	mV-meter	Check only	See Freq. Response 50-13 kHz ± 8 dB
Recording sensitivity	SBC126Cr side 2 —	Aux Play+Rec SK302 on SK306 on SK309 man.	500 mV 315 Hz BU7 (BU6)	MP1 (MP2)	Led indic. L-R	R306 R356	Led bar L-R on 0 dB
					mV-meter	R440 R490	1.2 mV±0.5 dB on MP1 *b MP2
Bias + Freq-response	SBC126Cr side 2 d*	Aux Play+Rec SK302 on SK306 on SK309 man	BU7 (BU6) 315 Hz 500 mV	—	Led indic. L-R	LF-generator	0 dB on Led ind.
			Decrease input to —20 dB	Record a number of frequencies; 50 Hz-315 Hz-6,3 kHz-13 kHz (at-20 dB)			
		Play the Recording made		BU9 (BU8)	mV-meter	R441 R491	Check the freq-resp. 50 Hz-13 kHz c*
Check Copy A to copy B	Deck A SBC126 215 Hz o dB	Play SK307 on SK302 on SK308 on normal	—	—	Led indic L-R	Fader R341 } R391 }	Adjust Led indic L-R to 0 dB
	Deck A SBC126 Side 1 Deck B SBC126 side 2		Copy 40 Hz-250 Hz-6.3 kHz-12.5 kHz d* from Deck A on Deck B				
		Play SK306 on	Check the freq-resp; Deck B; 80 Hz-12 kHz±10 dB				
ALC balance	SBC126 side 2	Play+Rec Aux SK309 ALC	BU7 (BU6) 315 Hz 500 mV	MP1 (MP2)	mV-meter	R307	on MP1 (MP2) 1.1 mV±1 dB LED ind L = LED ind R

Fig. 1a

DECK-A

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Playback speed	3150 Hz of SBC126Cr	Play SK305 on Tape	—	BU9 (BU8)	Wow- and flutter meter	R810	a* = 4.76 cm/s
Playback speed	3150 Hz of SBC126Cr	Tape SK307 on Play, SK305 on SK308; high	—	BU9 (BU8)	Frequency counter	Check only	6300 Hz±2% =9,52 cm/s
Azimuth R/P head	10 kHz SBC126Cr	Tape,Play SK305 on	—	BU9 (BU8)	mV-meter	Left screw R/PB head	Max. output + outp. L ≈ outp. R
Playback sensitivity +Led ind.	315 Hz o dB of SBC126Cr	Tape Play SK305 on	—	BU9 (BU8)	mV-meter Led indic L-R	R424 R474	L/R 650 mV±2 dB = L/R Led ind+3 dB
Play back freq. response	SBC126Cr 40 Hz 250 Hz 6.3 kHz 12.5 kHz	Tape Play SK302 on SK305 on	—	BU9 (BU8)	mV-meter	Check only	See frequence response 80 Hz-12 kHz ±8 dB

Fig. 1b

(GB) ELECTRICAL MEASUREMENTS AND ADJUSTMENTS (see Fig. 1)

Notes:
- Prior to any measurement or adjustment with the tape running, heads and tape guides should be degaussed and cleaned.
- The measurements and adjustments are related to the left-hand channel.
  The corresponding test points and adjusting elements for the right-hand channel are given in brackets.
- The voltages have been measured relative to earth.

Required test equipment and test cassettes

- Frequency counter.
- AF-generator.
- AC-millivoltmeter.
- Wow-and-flutter-meter.
- Universal test cassette SBC126Cr 4822 397 30038.

Remarks (see Fig. 1)

*a The maximum permissible speed deviation is 2%. Moreover, the wow-and-flutter value can be read. This value should not exceed 0.3%.

*b Disable the bias by connecting the base of TS408 to ground.

*c If the accuracy requirements are less stringent a high-quality chromium cassette may be used as an alternative.

*d
- If necessary repeat adjustment.
- When one channel is adjusted this may slightly affect the adjustment of the other channel.
- If the adjustment is correct the frequency response curve will be similar to curve b in Fig. 21 distortion ⩽ 3%.
- If the bias is too small, the distortion will increase.
  The frequency response curve will then be as shown in Fig. 21 curve a.
- If the bias level is too high this will result in excessive treble attenuation, see curve c in Fig. 21.

(NL) ELEKTRISCHE METINGEN EN INSTELLINGEN (zie Fig. 1)

Opmerkingen:
- Voor elke meting of instelling met lopende band dienen de koppen en bandgeleiders gedemagnetiseerd en gereinigd te worden.
- Bij de metingen en instellingen is uitgegaan van metingen aan het linker kanaal. De aansluitpunten en afregelorganen voor het rechter kanaal zijn tussen haakjes vermeld.
- De spanningen zijn gemeten t.o.v. de massa.

Benodigde meetinstrumenten en testcassettes

- Frequentie teller.
- LF-generator.
- AC-millivoltmeter.
- Wow en flutter meter.
- Universal testcassettes SBC126Cr-4822 397 30038.

Opmerkingen: (zie Fig. 1)

*a Max. toelaatbare snelheidsafwijking 2%. Tevens kan bij deze meting de jengelwaarde worden afgelezen. Deze waarde mag max. 0.3% bedragen.

*b Voormagnetisatie uitschakelen door basis van TS408 aan massa te leggen.

*c Bij minder hoge nauwkeurigheid kan ook een chromiumcassette van goede kwaliteit worden gebruikt.

*d
- Bij het instellen van het ene kanaal kan het andere iets worden beinvloed.
- Bij een goede instelling zal de frequentiekarakteristiek als in Fig. 21 curve b verlopen, vervorming ⩽ 3%.
- Bij een te kleine voormagnetisatie wordt de vervorming te groot.
  De frequentiekarakteristiek zal er dan uitzien als getekend in Fig. 21 curve a.
- Bij een te grote voormagnetisatie worden de hoge tonen te veel verzwakt, zie de karakteristiek Fig. 21 curve c.

(F) REGLAGES ELECTRIQUES ET MESURES (voir Fig. 1)

Remarques:
- A chaque mesure ou réglage à la chaine, les têtes et guide-bande doivent être démagnétisées et nettoyées.
- Aux mesures et réglages, on s'est basé sur le canal de gauche. Les points de connexion et les organes d'ajustage pour le canal de droite sont donnés entre parenthèses.
- Les tensions sont mesurées par rapport à la masse.

Instruments de mesure et cassette d'essai requis

- Fréquencemètre.
- Générateur BF.
- Millivoltmètre AC.
- Instrument du pleurage.
- Cassette d'essai universelle SBC126Cr 4822 397 30038.

Remarques (voir Fig. 1)

*a Ecart maximum admissible 2%. On pourra aussi lire le niveau de pleurage qui ne doit pas dépasser 0.3%.

*b Couper la prémagnétisation. Brancher le point de connection b de TS408 à la masse.

*c Si les exigences point de vue précision ne sont pas tellement élevées, une cassette au chrome de bonne qualité pourra aussi convenir.

*d
- Eventuellement répéter la mesure.
- Lors du réglage d'un des canaux on constate qu'il y a incidence sur l'autre.
- Si le réglage est comme il faut, la courbe de fréquence aura la forme de celle de la Fig. 21 courbe b, distorsion ⩽ 3%.
- Si la prémagnétisation est trop faible, la distorsion devient trop importante.
  La courbe de fréquence aura alors la forme de celle de la Fig. 21 courbe a.
- Si le courant de prémagnétisation est trop élevé les aigus sont trop atténuées, voir courbe c de la Fig. 21.

(I) MISURE E REGOLAZIONI ELETTRICHE (vedere Fig. 1)

Le seguenti misure e regolazioni sono riferite al canale sinistro.
I punti di misura e di regolazione per il canale destro sono riportati tra parentesi.
Prima di ogni misura o regolazione con in funzione la cassetta bisogna smagnetizzare le testina e le guide del nastro.
Si raccomanda di pulire le testine prima di ogni misura o regolazione che preveda l'uso della cassetta.

Cassetta campione e strumenti richiesti:

- Frequenziometro.
- Generatore bassa frequenza.
- Millivoltmetro.
- Misuratore di Wow e Flutter.
- Cassette campione universali SBC126Cr 4822 397 30038.

(D) ELEKTRISCHE MESSUNGEN UND EINSTELLUNGEN (siehe Bild 1)

Anmerkungen:
- Vor jeder Messung oder Einstellung mit laufendem Band sind die Köpfe und Bandführungen zu entmagnetisieren und zu reinigen.
- Bei den Messungen und Einstellungen ist von Messungen am linken Kanal ausgegangen.
  Die Anschlusspunkte und Abgleichorgane für den rechten Kanal sind eingeklammert.
- Die Spannungen sind gegen Masse gemessen.

Erforderliche Messgeräte und Testcassetten

- Frequenz-zähler.
- NF-Generator.
- Wechselspannungs-Millivoltmeter.
- Gleichlauf-Messgerät.
- Universal-Testcassette SBC126Cr 4822 397 30038.

Anmerkungen (siehe Bild 1)

*a Höchstzulässige Geschwindigkeitsabweichung 2%. Auch kann der Jaulwert abgelesen werden, der höchstens 0.3% betragen darf.

*b Vormagnetisierung ausschalten durch dass Basis von TS408 an Masse zu legen.

*c Bei weniger hoher Genauigkeit lässt sich auch eine Chromium-Cassette guter Qualität verwenden.

*d
- Fals nötig Messung wiederholen.
- Beim Einstellen des einen Kanals kann der andere ein wenig beeinflusst werden.
- Bei einer richtigen Einstellung verläuft der Frequenzgang wie in Abb. 21 Kurve b, Verzerrung ⩽ 3%.
- Bei einer zu geringen Vormagnetisierung wird die Verzerrung zu gross. Der Frequenzgang sieht dann aus wie in Abb. 21, Kurve a, dargestellt.
- Bei einer zu grossen Vormagnetisierung werden die höhen abgeschwächt, siehe die Kennlinie in Abb. 21 Kurve c.

Nota (vedere Fig. 1)

*a Massima deviazione tollerata 2%. Può essere letto anche il Wow. Questo può essere come massimo 0,3%.

*b Togliere la premagnetizzazione cortocircuitando la base e l'emittore di TS408.

*c Si il controllo non deve essere molto accurato, si può utilizare une cassetta al cromo di alta qualità.

*d
- Se necessario regolare ancora una volta.
- Quando viene regolato un canale, questo può influire sulla regolazione dell'altro.
- Se la regolazione e corretta la curva della risposta in frequenza sarà simile alla curva b della Fig. 21. Distorsione ⩽ 3%.
- Se la premagnetizzazione è troppo bassa, la distorsione aumentera.
  La curva della risposta in frequenza sarà quella della curva a della Fig. 21.
- Se la premagnetizzazione è troppo alta ne risulterà un'eccessiva attenuazione delle frequenza alta, vedere curva c della Fig. 21.

R	101 102 103 105 107 104 106 108 109 150÷153 155 171 154 160 161 156÷159 180 172 162 165÷168 163 181 169 170 187 189 190 182 183 188 173 174 184 186 185	R
C	101 102 140÷149 175 103÷106 108÷111 113÷117 152 150 151 153÷156 173 139 176 164 177 157÷160 171 161 163 180 168 174 169 165÷167 194 181÷183 170 191÷193 184 185÷190	C
MISC.	BU101 S101 D101 TS101 S102 TS102 S103 TS103 D102 TS104 S104 S150 XR151 XR152 S155 XR153 IC150 S154 TS180 TS150 D152 S156 TS151 D150 D151 IC180 TS152 D180 S140÷S144	MISC.

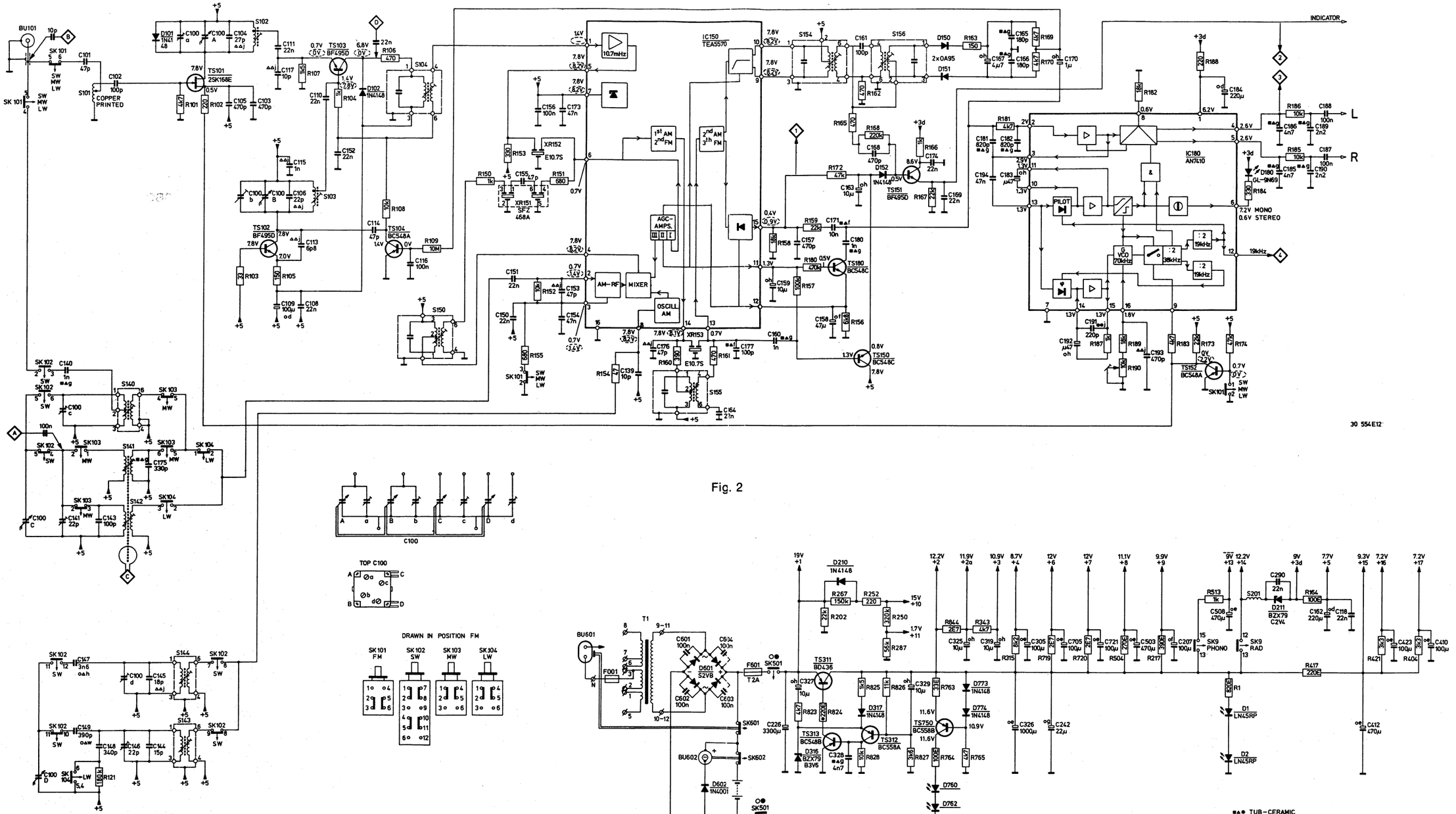
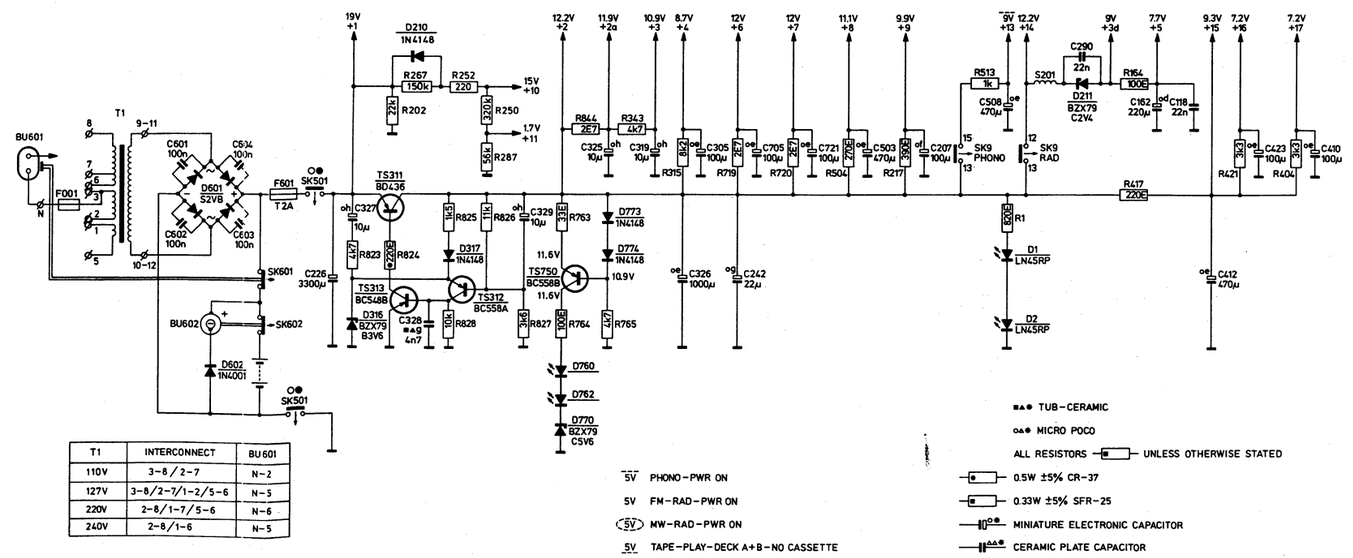


Fig. 2



T1	INTERCONNECT	BU601
110V	3-8/2-7	N-2
127V	3-8/2-7/1-2/5-6	N-5
220V	2-8/1-7/5-6	N-6
240V	2-8/1-6	N-5

5V PHONO-PWR ON

5V FM-RAD-PWR ON

(5V) MW-RAD-PWR ON

5V TAPE-PLAY-DECK A+B-NO CASSETTE

(5V) DECK B-PLAY-REC-PWR ON -CASSETTE IN DECK B

5V DUBBING-PLAY-PWR ON HIGH SPEED- -CASSETTE IN DECK B

■▲● TUB-CERAMIC

○▲● MICRO POCO

ALL RESISTORS — UNLESS OTHERWISE STATED

0.5W ±5% CR-37

0.33W ±5% SFR-25

MINIATURE ELECTRONIC CAPACITOR

CERAMIC PLATE CAPACITOR

POLYESTER FLAT FILM CAPACITOR

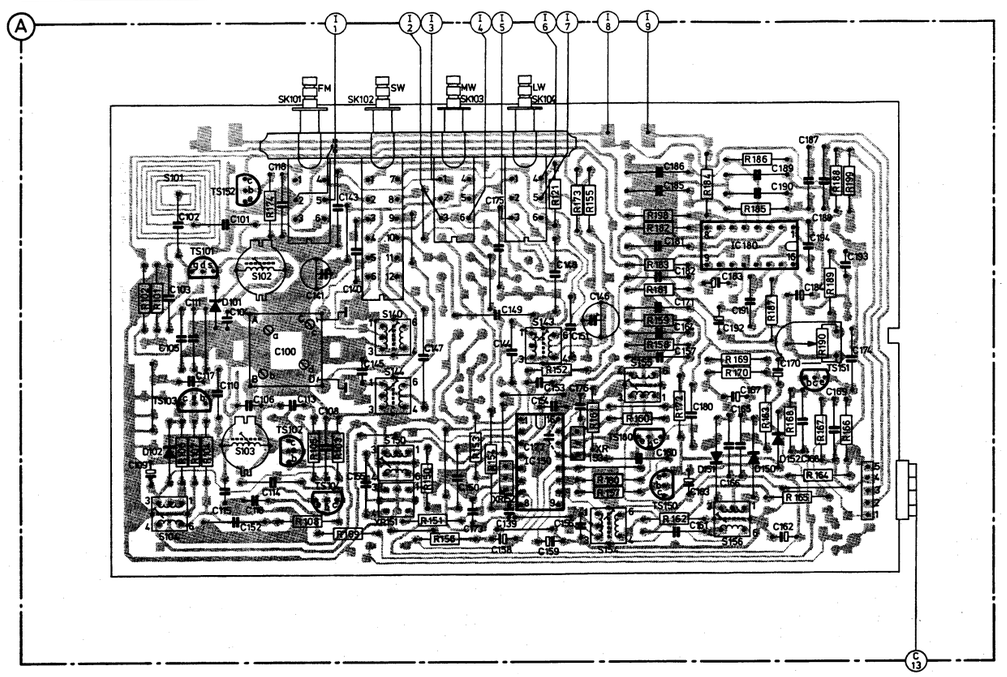
● c = 6.3V h = 63V
d = 10V j = 100V
e = 16V r = 250V
f = 25V u = 400V
g = 40V w = 630V

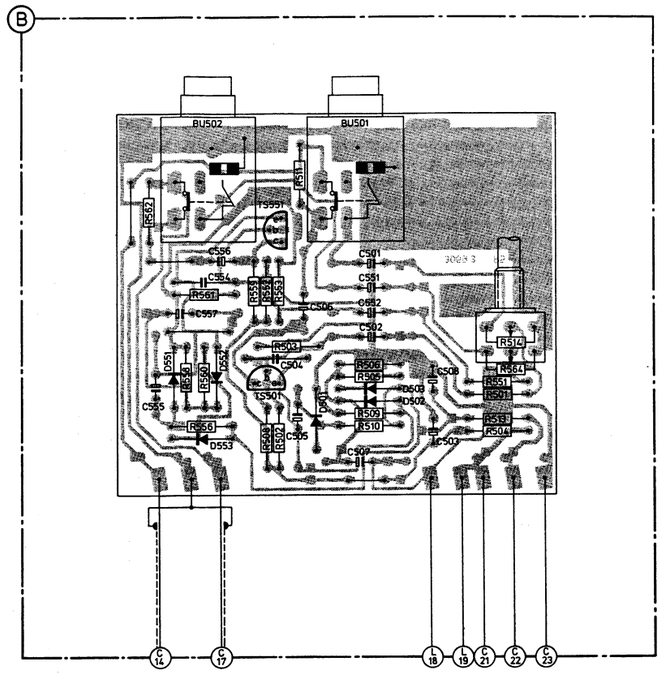
ELECTRONIC VOLTMETER

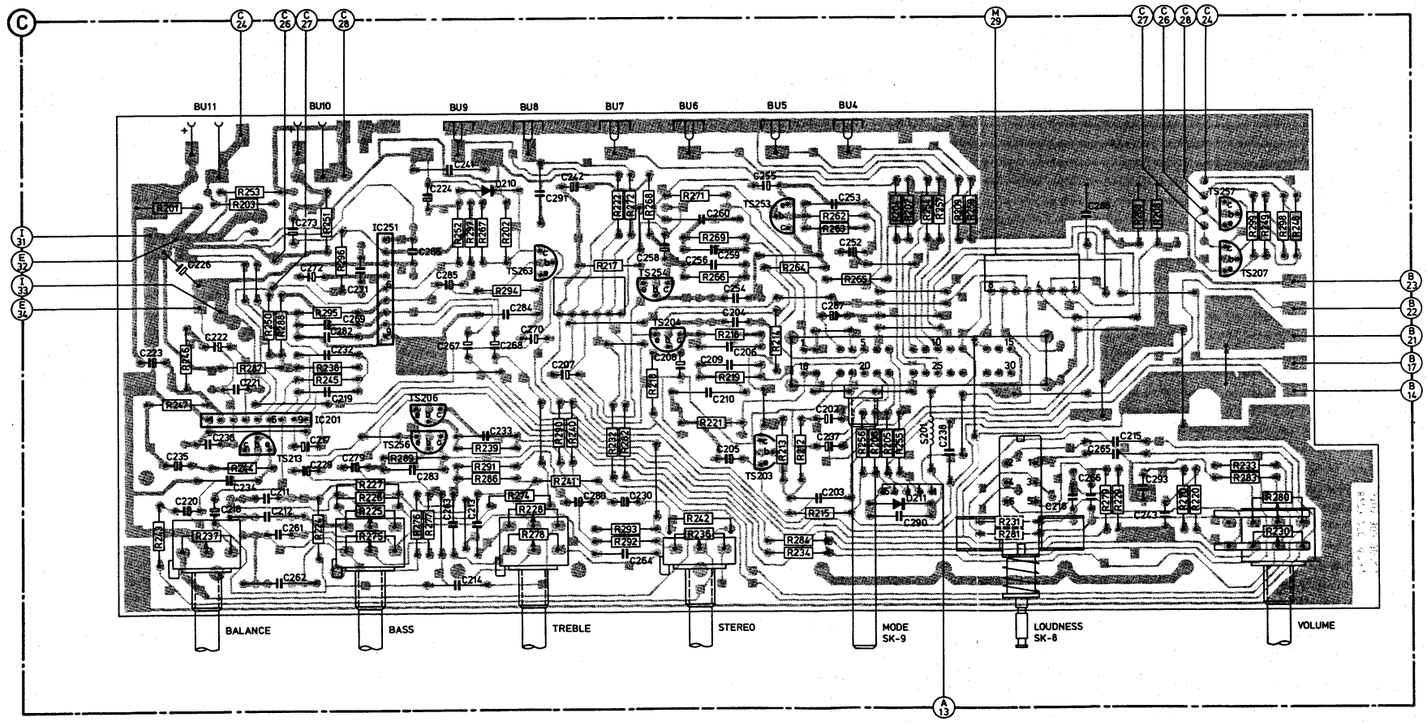
30 610 D12

Fig. 3

R	101÷109 174 150÷154.156 121.173.155.157÷162.180÷187.198.172.163÷170.190.189.188.199 562 558÷561.556.552.553.503.511.508.502.506.505.509.510 551.501.513.504.514.564
	201 253.203.287.250.280.251.296.295 252.297.202.294.267 217.222.272.268.271.269.266 262÷265 204.207.254.257.209.259 279.229.258.208.270.220.233.283.299.249.298.248.280.230
	243÷247.237 238.224÷227.275÷277.289.239÷241.286.274.228.278.290÷293.232.282.218.212÷216.219.221.242.236.284.234.256.206.205.255 231.281
C	109.101÷106.111.110.113÷117.152.118.100.141.108.143.140.145.155.146÷154.173.175.144.139.176.156.158÷161 180÷186.162÷171.157.187÷194.174 554÷557 504÷506 501.551.552.502.507.508.503
	226.220÷223 271÷273.269.282.232.219 224.241.284÷286.267.268.270.291.242 256.258 254 255 253.252.287 288.216.266.215.265.293.243 601÷604
	234÷236.218.211.212.261.262.217.229.279 283.263.214.233.213 207.280.230.264 208÷210.204÷206 202.237.203 290 238
MISC.	D102.S101÷S104.TS101÷103.D101.TS152.TS104.SK101÷104.S140.S144.S150.XR151 XR152.S143.IC150.XR153.S154÷156.TS180.TS150.D150÷152.IC180 TS151 BU502 D551÷D553.TS551.TS501.D501÷D503.BU501
	IC201.TS213 IC251.TS206.TS256.BU9.D210.BU8.TS263 BU7 TS254.TS204.BU6 BU5.TS253.TS203.BU4 SK9 D211.S201 SK8 TS257.TS207 D601 BU602.SK602.F601.BU601.SK601.D602







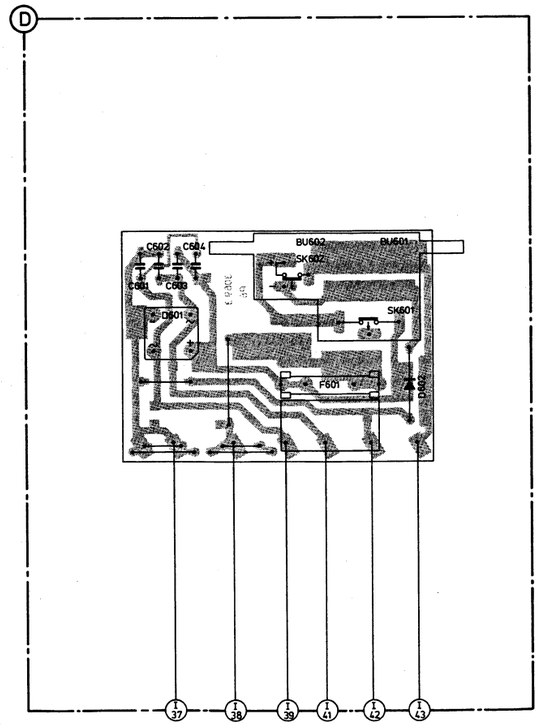


Fig. 4

R	348÷342. 387. 339. 389	334. 337. 385. 388. 338. 335. 399. 349
	392. 395. 394. 398. 397	346. 384. 396
C	317. 318. 367. 368. 319	372. 322
		371. 321. 370. 320
MISC.	IC301	SK304

R	372. 322. 332. 333		819÷816		331. 330		809÷805		842		843. 801. 321. 371. 822. 802. 803						340. 390	341. 313	320÷316. 358. 314. 391. 315. 386. 336. 370÷362		308		305. 356. 306. 355	R
	354÷351. 304. 301					815÷811		820. 821. 804. 831÷829. 810		840÷836	833	832					828÷823				312. 373. 374. 375. 311. 350. 329÷323. 361÷359. 307. 310. 300. 309			
C	310		309. 359					323. 324				308. 358							306. 304. 363÷361. 357. 330. 380. 350. 305. 353. 354				302		C
								325	332		333				326. 307	328	329. 313÷311. 327	314. 364	303. 315. 365				331. 381	
MISC.	SK301	SK302. SK303. TS308. TS307					SK305. TS310. TS309		D307. SK306				SK307	SK308	TS305. TS304. D352. SK310				TS355. TS354		SK309. TS352. TS351		303÷TS301	MISC.
	D308. D311. IC302						S302. S301		TS314. TS317. TS316		D320÷D318			D302	D316. D317. 313÷TS311				TS356. TS306		D303. D306			

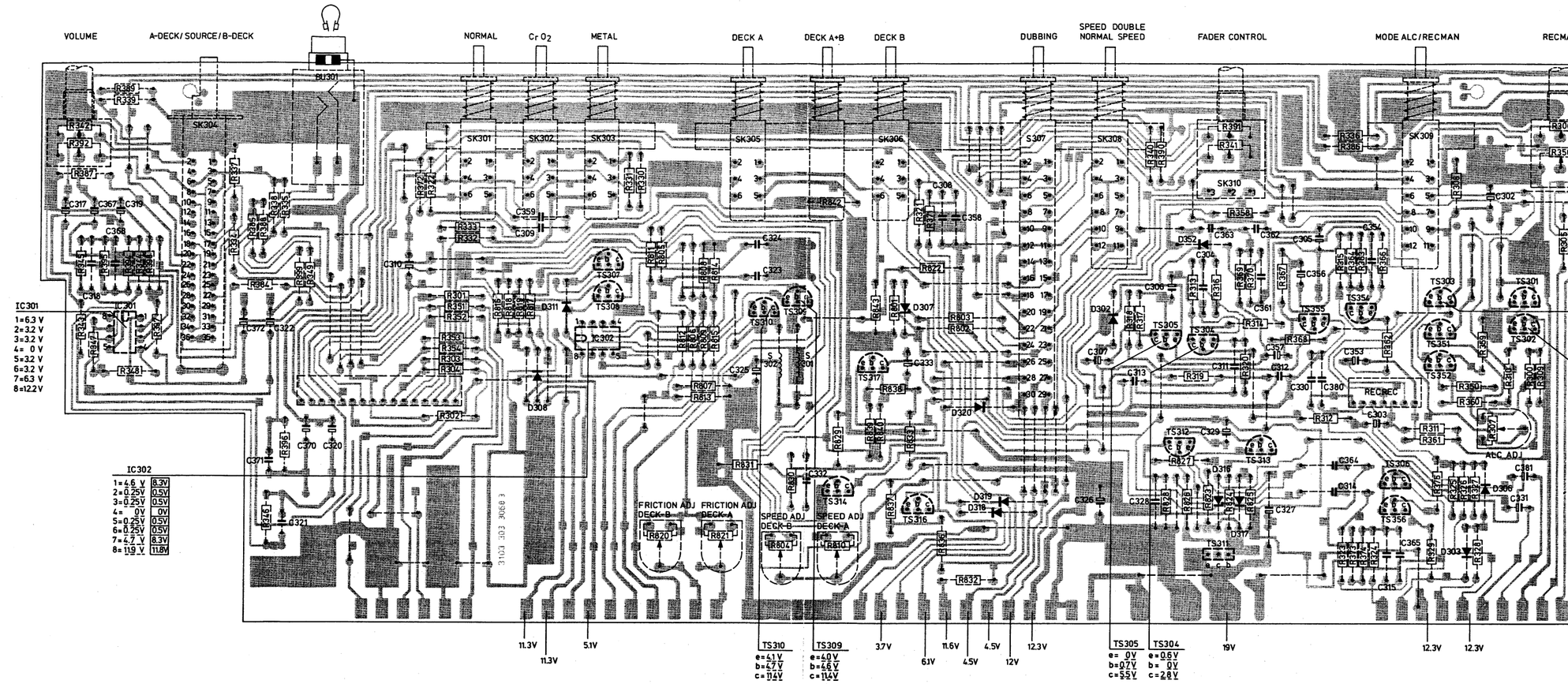
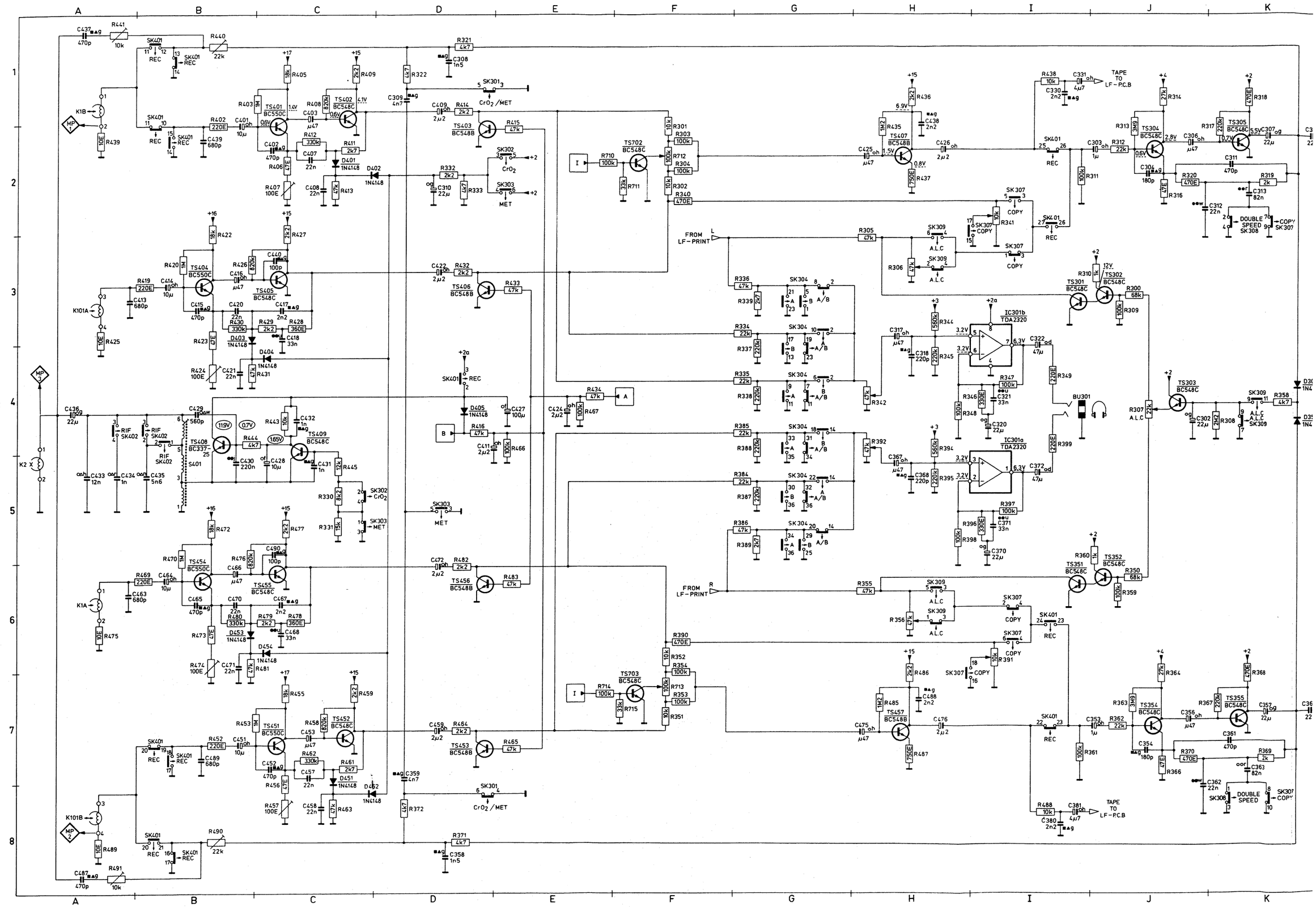


Fig. 5

30288 E13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K1B
K101A
K2
K101B
K1A
MP 1
MP 2
MP 3
SK401 REC
SK302 CrO2
SK303 MET
SK301 CrO2 / MET
TS401 BC550C
TS402 BC548C
TS403 BC548B
TS404 BC550C
TS405 BC548C
TS406 BC548B
TS408 BC337-25
TS409 BC548C
TS451 BC550C
TS452 BC548C
TS453 BC548B
TS454 BC550C
TS455 BC548C
TS456 BC548B
TS457 BC548B
TS301 BC548C
TS302 BC548C
TS303 BC548C
TS304 BC548C
TS305 BC548C
TS351 BC548C
TS352 BC548C
TS354 BC548C
TS355 BC548C
TS407 BC548B
TS702 BC548C
TS703 BC548C
IC301a TDA2320
IC301b TDA2320
SK304 A/B
SK307 COPY
SK309 A.L.C
DOUBLE SPEED SK308
TAPE TO LF-PC.B
FROM LF-PRINT
BU301
D401 1N4148
D402 1N4148
D403 1N4148
D404 1N4148
D405 1N4148
D451 1N4148
D452 1N4148
D453 1N4148
D454 1N4148
RIF SK402
RIF SK402
S401

Fig. 6

E F G H I J K L M N O P

1 2 3 4 5 6 7 8

TS702 BC548C · TS703 BC548C · TS301 BC548C · TS302 BC548C · TS303 BC548C · TS304 BC548C · TS305 BC548C · TS306 BC548C · TS307 BC548B · TS351 BC548C · TS352 BC548C · TS354 BC548C · TS355 BC548C · TS356 BC548C · TS457 BC548B

IC301a TDA2320 · IC301b TDA2320 · IC703 IR2E02 · IC704 IR2E02

D302 1N4148 · D352 1N4148 · D303 1N4148 · D306 OA95

FROM LF-PRINT L · FROM LF-PRINT R

TAPE TO LF-PC.B

FIELD STRENGTH

SK304 DECK-B SOURCE DECK-A · SK401 PLAY REC · SK303 NORMAL CrO2 METAL OFF ON · SK305 SK306 DECK-A DECK-B OFF ON · SK308 SK309 NORMAL DOUBLE SPEED MAN ALC · SK307 DUBBING OFF COPY

THE DIAGRAM IS DRAWN IN POSITION: SOURCE, PLAY, NORMAL, MAN., DUBB.OFF

30 355 F12

Fig. 6

CS 84 386

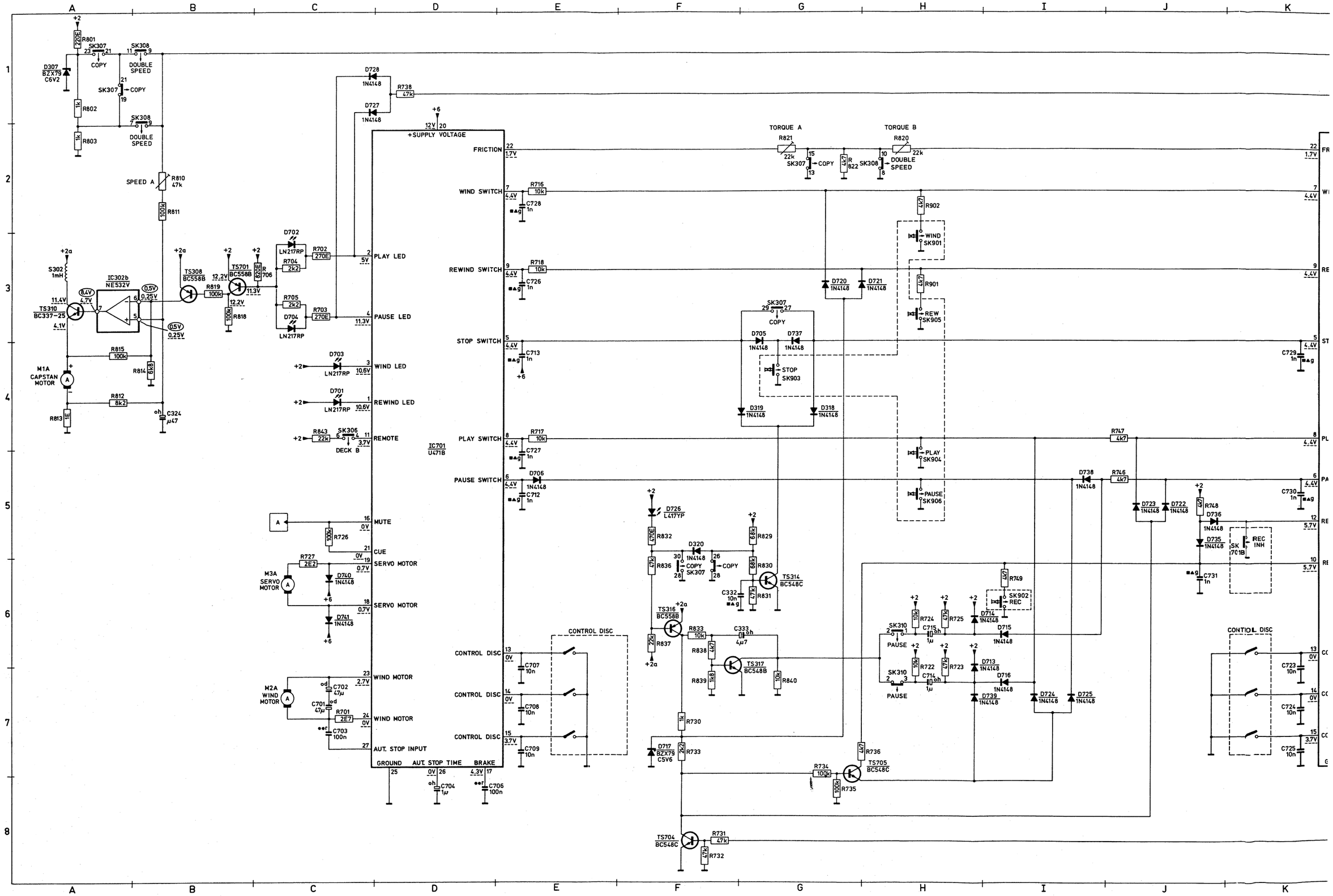


Fig. 7

CS 84 387

E F G H I J K L M N O

TORQUE A
R821 22k
SK307 15 COPY 13
TORQUE B
R820 22k
SK308 10 DOUBLE SPEED 8
R822 4k7

R716 10k
C728 1n
R718 10k
C726 1n
C713 1n
R717 10k
C727 1n
D706 1N4148
C712 1n

R902 4k7
WIND SK901
R901 4k7
REW SK905
PLAY SK904
PAUSE SK906

D720 1N4148
D721 1N4148
SK307 29 27 COPY
D705 1N4148
D737 1N4148
STOP SK903
D319 1N4148
D318 1N4148

D726 L417YP
R832 470E
D320 1N4148
30 COPY SK307 28
26 COPY 28
R829 68k
R830 68k
R836 47k
TS314 BC548C
C332 10n
R831 47k
TS316 BC558B
R833 10k
C333 4µ7
R837 22k
R838 4k7
R839 1k8
TS317 BC548B
R840 10k
R730 1k
D717 BZX79 C5V6
R733 2k2
CONTROL DISC
C707 10n
C708 10n
C709 10n

R734 100k
R735 100k
R736 4k7
TS705 BC548C
TS704 BC548C
R731 47k
R732 47k

SK310 2 1 PAUSE
SK310 2 3 PAUSE
R724 10k
R725 47k
C715 1µ
R722 10k
R723 47k
C714 1µ
D714 1N4148
D715 1N4148
D713 1N4148
D716 1N4148
D739 1N4148
D724 1N4148
D725 1N4148
R749 4k7
SK902 REC
R747 4k7
D738 1N4148
R746 4k7
D723 1N4148
D722 1N4148
R748 4k7
D736 1N4148
D735 1N4148
SK 7C1B REC INH
C731 1n

+7
12V 20 +SUPPLY VOLTAGE
22 1.7V FRICTION
7 4.4V WIND SWITCH
9 4.4V REWIND SWITCH
5 4.4V STOP SWITCH
C729 1n
8 4.4V PLAY SWITCH
6 4.4V PAUSE SWITCH
C730 1n
12 5.7V REC. LOCK
10 5.7V REC. SWITCH
C731 1n
CONTROL DISC
13 0V CONTROL DISC
C723 10n
14 0V CONTROL DISC
C724 10n
15 3.7V CONTROL DISC
C725 10n
GROUND 25
AUT STOP TIME 0V 26
C720 1µ
BRAKE 4.3V 17
C722 100n
IC702 U471B

RECORDING LED 28
D730 LN217RP
R742 2k7
PLAY LED 2 9.3V
D732 LN217RP
R744 2k2
PAUSE LED 4 11.3V
R745 2k2
D734 LN217RP
WIND LED 3 10.6V
D733 LN217RP
REWIND LED 1 10.6V
D731 LN217RR
REMOTE 11 3.7V
SK305 3 5 DECK A
R842 22k

+2 820E R740 +2 220k R739 10.9V
TS706 BC558C R737 10k 11.6V
TS707 BC558B 12.2V 11.6V
C716 1µ
D729 1N4148
+2 820E R743 +2 12.2V
TS708 BC558B 11.3V 12.2V
D308 1N4148
R816 100k
R817 100k
TS307 BC558B
+2a D311 1N4148

SPEED B R804 47k
R805 100k
IC302a NE532V 11.9V
0.5V 0.25V
S301 1mH
TS309 BC337-25 11.5V 4.0V
8.3V 4.6V
R809 100k
R808 6k8
M1B CAPSTAN MOTOR
R806 8k2
C323 µ47
R807 1E

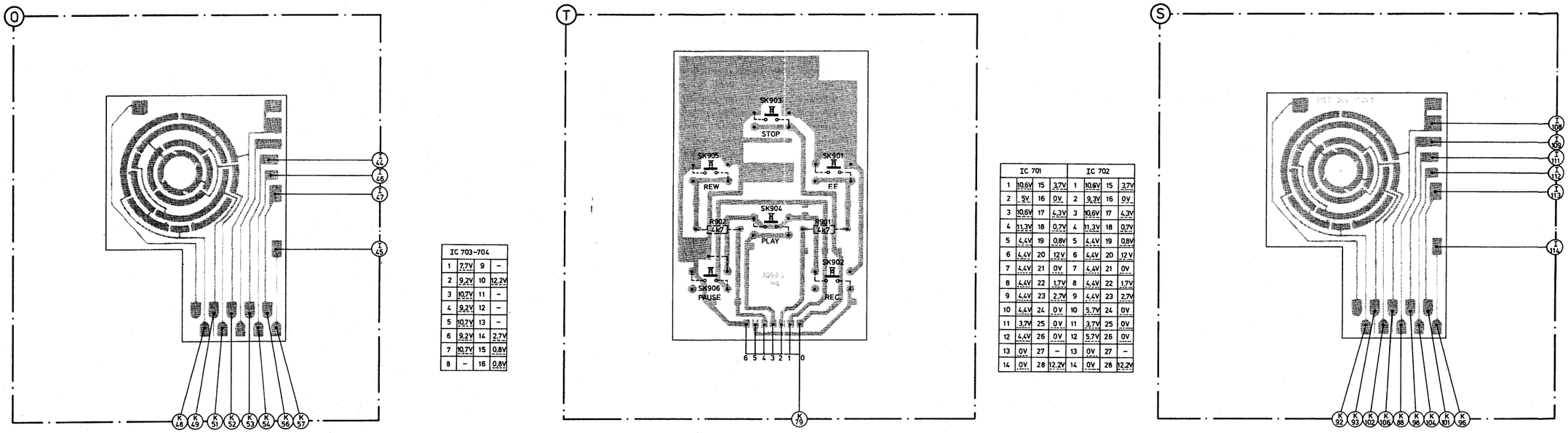
MUTE 16 0V B
R728 100k
CUE 21 0V
SERVO MOTOR 19 0.7V
R729 2E2
D742 1N4148
M3B SERVO MOTOR
SERVO MOTOR 18 0.7V
D743 1N4148
WIND MOTOR 23 2.7V
C718 47µ
C717 47µ
M2B WIND MOTOR
WIND MOTOR 24 0V
R741 2E7
C719 100n
AUT STOP INPUT 27

1 2 3 4 5 6 7 8

30 356 F12

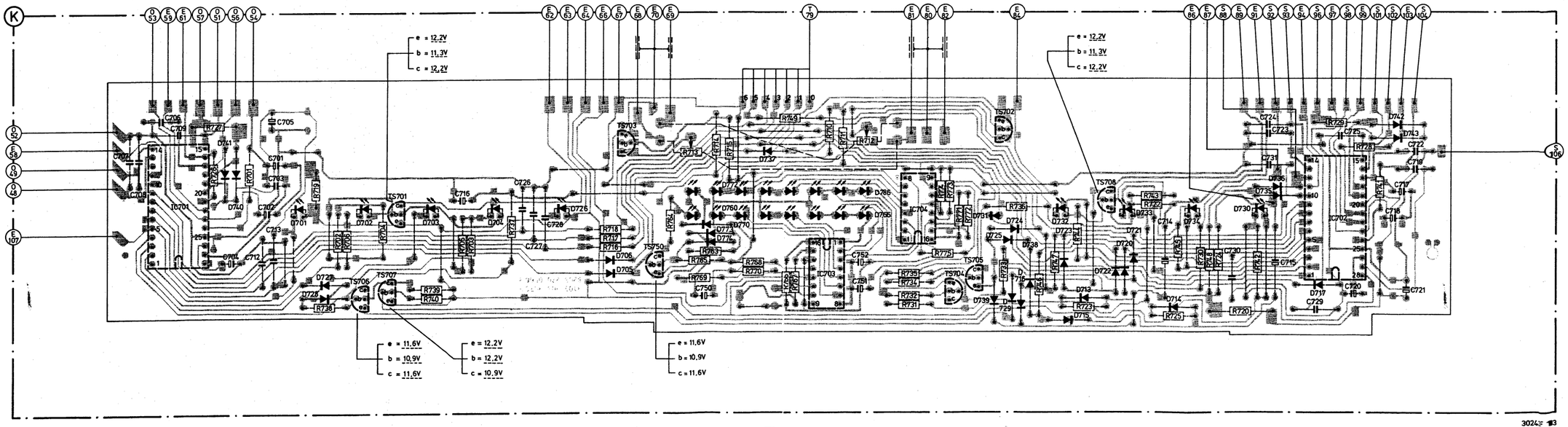
Fig. 7

R	727 726 701 719 702 706 738 704 739 740 705 703 737 716÷718 764 763 765 769 713÷715 768 770 749 766 767 710÷712 735 734 732 731 771÷775 733 736 746 747 744 723 743 722 725 745 730 748 724 720 742 729 728 741	R
C	706÷709 704 705 701÷703 712 713 716 726÷728 750 752 751 714 730 724 723 731 715 729 725 720 717÷719 722 721	C
MISC.	D701 D741 D740 D701 D727 D728 D702 TS706 TS707 TS701 D703 D704 D726 D706 D705 TS703 TS750 D772÷D774 D737 D770 D786 D760 D766 IC703 IC704 TS704 TS705 TS702 D731 D720÷D725 D739 D729 D738 D732 D713÷D716 TS708 D733÷D736 D730 IC702 D717 D742 D743	MISC.



IC 703-704			
1	7,7V	9	–
2	9,2V	10	12,2V
3	10,7V	11	–
4	9,2V	12	–
5	10,7V	13	–
6	9,2V	14	2,7V
7	10,7V	15	0,8V
8	–	16	0,8V

IC 701				IC 702			
1	10,6V	15	3,7V	1	10,6V	15	3,7V
2	5V	16	0V	2	9,3V	16	0V
3	10,6V	17	4,3V	3	10,6V	17	4,3V
4	11,3V	18	0,7V	4	11,3V	18	0,7V
5	4,4V	19	0,8V	5	4,4V	19	0,8V
6	4,4V	20	12V	6	4,4V	20	12V
7	4,4V	21	0V	7	4,4V	21	0V
8	4,4V	22	1,7V	8	4,4V	22	1,7V
9	4,4V	23	2,7V	9	4,4V	23	2,7V
10	4,4V	24	0V	10	5,7V	24	0V
11	3,7V	25	0V	11	3,7V	25	0V
12	4,4V	26	0V	12	5,7V	26	0V
13	0V	27	–	13	0V	27	–
14	0V	28	12,2V	14	0V	28	12,2V


K
O 53 E 59 E 61 O 57 O 51 O 56 O 54
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E 84
E 86 E 87 S 88 E 89 E 91 S 92 S 93 E 94 S 95 E 97 S 98 E 99 S 101 S 102 E 103 S 104
O 52
E 58
O 43
O 48
E 107
S 106
e = 12,2V
b = 11,3V
c = 12,2V
e = 11,6V
b = 10,9V
c = 11,6V
e = 12,2V
b = 12,2V
c = 10,9V
e = 11,6V
b = 10,9V
c = 11,6V
e = 12,2V
b = 11,3V
c = 12,2V
IC701
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R736
R737
R738
R739
R740

CONTROL DIAGRAM

ITEM	CD						
M1A	A04	D703	C04	R724	H06	R820	H02
M1B	004	D704	C03	R725	H06	R821	G02
M2A	C07	D705	G04	R726	C05	R822	G02
M2B	M07	D706	E05	R727	C06	R829	G05
M3A	C06	D713	H07	R728	M05	R830	G06
M3B	M06	D714	H06	R729	M06	R831	G06
C323	N05	D715	I06	R730	F07	R832	F05
C324	B04	D716	I07	R731	F08	R833	F06
C332	G06	D717	F07	R732	F08	R836	F06
C333	G06	D720	G03	R732	M02	R837	F06
C701	C07	D721	G03	R733	F07	R838	F06
C702	C07	D721	H03	R734	G07	R839	F07
C703	C07	D722	J05	R735	G08	R840	G07
C704	D08	D723	J05	R736	G07	R842	C04
C706	D08	D724	I07	R737	N02	R843	M04
C707	E07	D725	I07	R738	D01	R901	H03
C708	E07	D726	F05	R739	M02	R902	H02
C709	E07	D727	C01	R740	M02	S301	003
C712	E05	D728	C01	R741	M07	S302	A03
C713	E04	D729	N02	R743	M03	IC302A	003
C714	H07	D730	M02	R744	M03	IC302B	A03
C715	H06	D731	M04	R745	M03	IC701	D04
C716	N02	D732	M03	R746	J05	IC702	L05
C717	M07	D733	M04	R747	J04	TS307	N03
C718	M07	D734	M03	R748	J05	TS308	B03
C719	M07	D735	J05	R749	I06	TS309	004
C720	L08	D736	J05	R801	A01	TS310	A03
C722	L08	D737	G04	R802	A01	TS314	G06
C723	K07	D738	I05	R803	A02	TS316	F06
C724	K07	D739	H07	R804	N03	TS317	G07
C725	K07	D740	C06	R805	N03	TS701	B03
C726	E03	D741	C06	R806	004	TS704	F08
C727	E05	D742	M06	R807	005	TS705	G07
C728	E02	D743	M06	R808	N04	TS706	M02
C729	K04	R701	C07	R809	004	TS707	M02
C730	K05	R702	C03	R810	B02	TS708	M03
C731	J06	R703	C03	R811	B02		
D301	M03	R704	C03	R812	A04		
D307	A01	R705	C03	R813	A04		
D311	N03	R706	B03	R814	B04		
D318	G04	R716	E02	R815	A04		
D319	G04	R717	E04	R816	M03		
D320	F05	R718	E03	R817	N03		
D701	C04	R722	H07	R818	B03		
D702	C03	R723	H07	R819	B03		

RECORD DIAGRAM

ITEM	CD										
C302	J04	C431	C05	R310	J03	R375	L07	R459	C07	TS303	J04
C303	J02	C432	C04	R311	I02	R384	G05	R461	C07	TS304	J02
C304	J02	C433	A05	R312	J02	R385	G04	R462	C07	TS305	K02
C306	J02	C434	A05	R313	J02	R386	G05	R463	C08	TS306	L02
C307	K02	C435	B05	R316	J02	R387	G05	R464	D07	TS351	I06
C308	D01	C436	A04	R317	K02	R388	G04	R465	E07	TS352	J06
C309	D01	C438	H02	R318	K01	R389	G05	R466	E04	TS354	J07
C310	D02	C439	B02	R319	K02	R390	F06	R467	E04	TS355	K07
C311	K02	C440	C03	R320	J02	R391	I06	R469	B06	TS356	L07
C312	K02	C451	B07	R321	D01	R392	H04	R470	B05	TS401	C01
C313	K02	C452	C07	R322	D01	R394	H04	R472	B05	TS402	C01
C314	K02	C457	C07	R323	L02	R395	H05	R473	B06	TS403	D02
C315	L02	C458	C08	R324	L02	R396	I05	R474	B06	TS404	B03
C317	H03	C459	D07	R325	L02	R397	I05	R475	A06	TS405	C03
C318	H04	C463	A06	R326	M04	R398	H05	R476	B05	TS406	D03
C320	I04	C464	B06	R327	M04	R399	I04	R477	C05	TS407	H02
C321	I04	C465	B06	R328	L04	R402	B02	R478	C06	TS408	B04
C322	I04	C466	B06	R329	L07	R403	C01	R479	C06	TS409	C04
C331	I01	C467	C06	R330	C05	R405	C01	R480	B06	TS451	C07
C353	J07	C468	C06	R331	C05	R406	C02	R481	B06	TS452	C07
C354	J07	C470	B06	R332	D02	R407	C02	R482	D06	TS453	D07
C356	J07	C471	B06	R333	D02	R408	C01	R483	E06	TS454	B06
C357	K07	C472	D06	R334	G03	R409	C01	R485	H07	TS455	C06
C358	D08	C475	H07	R335	G04	R411	C02	R486	H07	TS456	D06
C359	D07	C476	H07	R336	G03	R412	C02	R487	H07	TS702	F02
C361	K07	C487	A08	R337	G04	R413	C02	R488	I08	TS703	F07
C362	K07	C488	H07	R338	G04	R414	D01	R489	A08		
C363	K07	C489	B07	R339	G03	R415	E02	R490	B08		
C364	K07	C490	C05	R340	F02	R416	D04	R491	A08		
C365	L07	C734	A01	R341	J01	R419	B03	R710	E02		
C367	H05	C750	N03	R341	I02	R420	B03	R711	F02		
C368	H05	C751	N08	R342	H04	R422	B02	R712	F02		
C370	I05	C752	P04	R344	H03	R423	B03	R713	F07		
C371	I05	D302	K04	R345	H04	R424	B04	R714	E07		
C372	I05	D303	M04	R346	I04	R425	A03	R715	F07		
C380	I08	D306	M04	R347	I04	R426	B03	R753	F07		
C381	I08	D352	K04	R348	I04	R427	C02	R754	F07		
C401	B02	D401	C02	R348	H04	R428	C03	R766	P01		
C402	C02	D402	C02	R349	I04	R429	C03	R767	P01		
C403	C01	D403	B03	R350	J06	R430	B03	R768	N03		
C407	C02	D404	C04	R351	F07	R431	B04	R769	M03		
C408	C02	D405	D04	R352	F06	R432	D03	R770	N03		
C409	D01	D451	C07	R355	H06	R433	E03	R771	P07		
C411	D04	D452	C08	R356	H06	R434	E04	R772	P06		
C413	A03	D453	B06	R358	K04	R435	H02	R773	N08		
C414	B03	D454	C06	R359	J06	R436	H01	R774	M08		
C415	B03	D760	P01	R360	J05	R437	H02	R775	N08		
C416	B03	D766	N01	R361	I07	R438	I01	S401	B05		
C417	C03	D772	P06	R362	J07	R439	A02	BU301	I04		
C418	C03	D786	N06	R363	J07	R440	B01	IC301A	I05		
C420	B03	R300	J03	R364	J07	R441	A01	IC301B	I03		
C421	B04	R301	F02	R366	J07	R444	C04	IC703	N01		
C422	D03	R302	F02	R367	K07	R444	B04	IC704	N06		
C424	E04	R303	F02	R368	K07	R445	C05	K001A	A06		
C425	H02	R304	F02	R369	K07	R452	B07	K001B	A01		
C426	H02	R305	H03	R370	J07	R453	C07	K002.	A05		
C427	E04	R306	H03	R371	D08	R455	C07	K101A	A03		
C428	C05	R307	J04	R372	D08	R456	C07	K101B	A08		
C429	B04	R308	K04	R373	L07	R457	C08	TS301	I03		
C430	B05	R309	J03	R374	L07	R458	C07	TS302	J03		

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C	601÷604 427÷432 487 433÷437 554÷557 504 506–508 501–503 552 551	C
	457 459 451÷453 489 458 402 439 401 410 403 411 407÷409 412 488 471 476 426 428 472 468 475 425 467 470 490 466 465 464 463 413 418 423 420 424 421 414÷417 440 422	
MISC.	F601 SK602 BU602 SK601 BU601 D602 TS408 TS409 S401 402 DS51÷DS53 BU502 TS501 DS01 TS551 D502 D503 B501	MISC.
	TS452 TS451 D451 TS453 D452 SK401 TS401÷TS403 D402 D401 D405 D454 D453 TS457 TS407 D456÷D454 TS406 TS404 D404 TS405 D403	

TS303 J04
TS304 J02
TS305 K02
TS306 L02
TS351 I06

TS352 J06
TS354 J07
TS355 K07
TS356 L07
TS401 C01

TS402 C01
TS403 D02
TS404 B03
TS405 C03
TS406 D03

TS407 H02
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TS451 C07
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TS454 B06
TS455 C06
TS456 D06
TS702 F02

TS703 F07

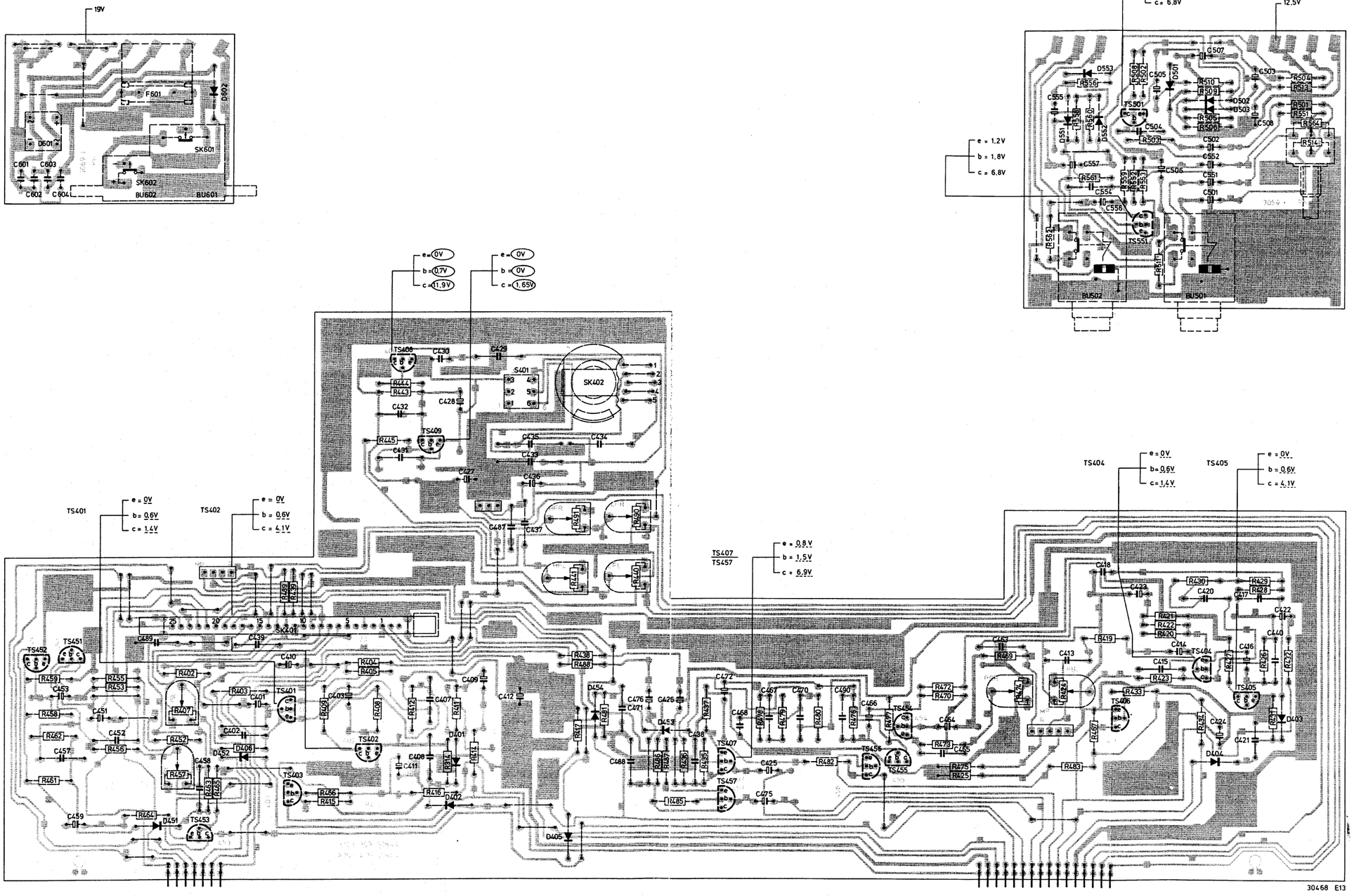
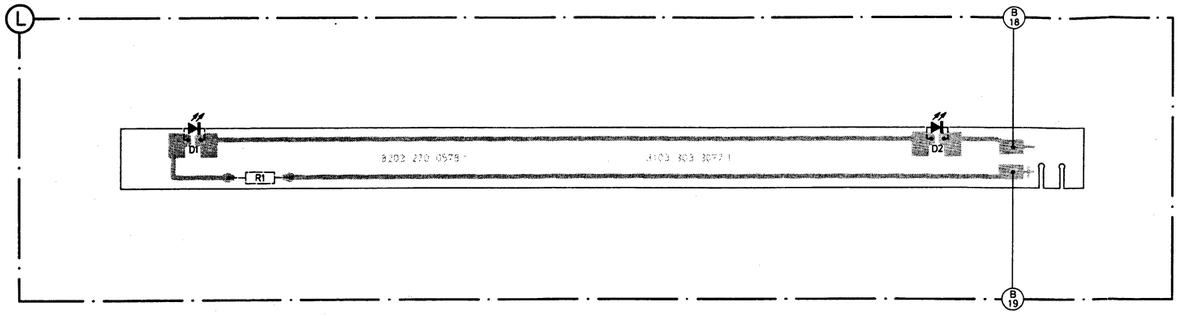
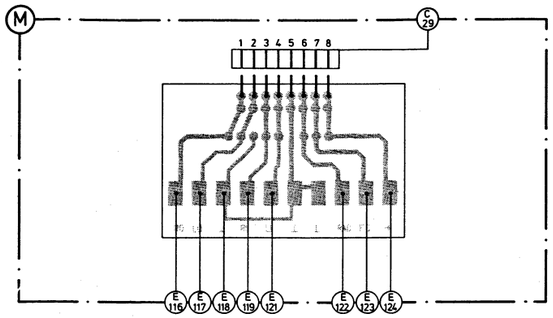


Fig. 9

R	1 426÷432 434 419÷423 433 467 483 424 474 469 475 425 472 470 473 477 476 482 478÷480 435÷437 485÷487 490 440 481 438 488 417 491 441 433÷437 487 443÷445 411÷414 416 427÷432 404 405 408 409 466 415 439 489 403 406 463÷465 402 407 452 457 455 453 456 459 458 462 461	R
C	422 440 414÷417 421 424 420 423 418 413 463 464 465 466 490 470 467 425 475 468 472 438 426 476 471 488 412 407÷409 411 403 410 401 439 402 458 489 451÷453 459 457	C
MISC.	D1 D403 TS405 D404 TS404 TS406 D454÷D456 D2 TS407 TS457 D453 D454 D405 402 S401 D401 TS409 TS408 D402 TS401÷TS403 SK401 D452 TS453 D451 TS451 TS452	MISC.





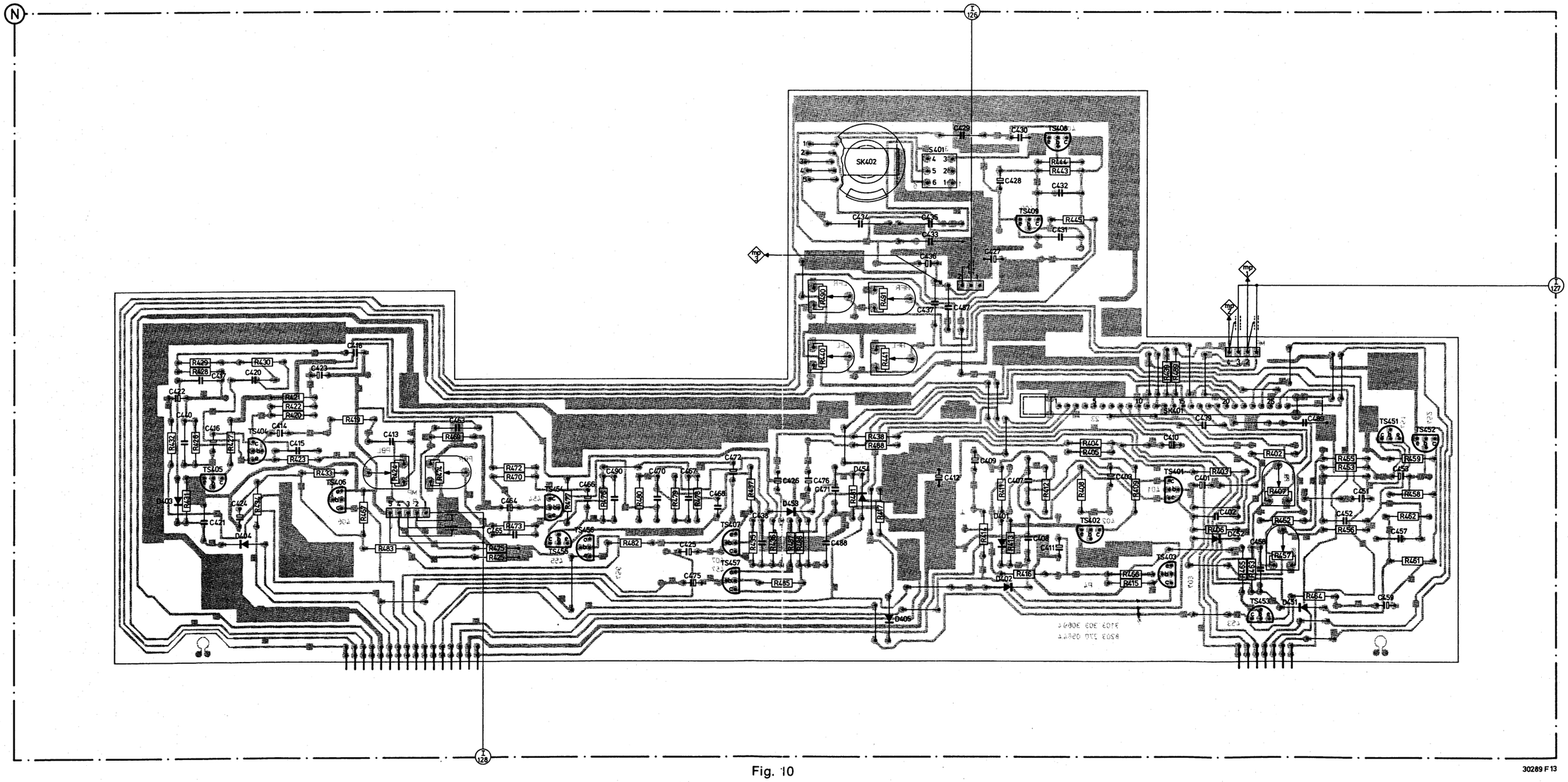
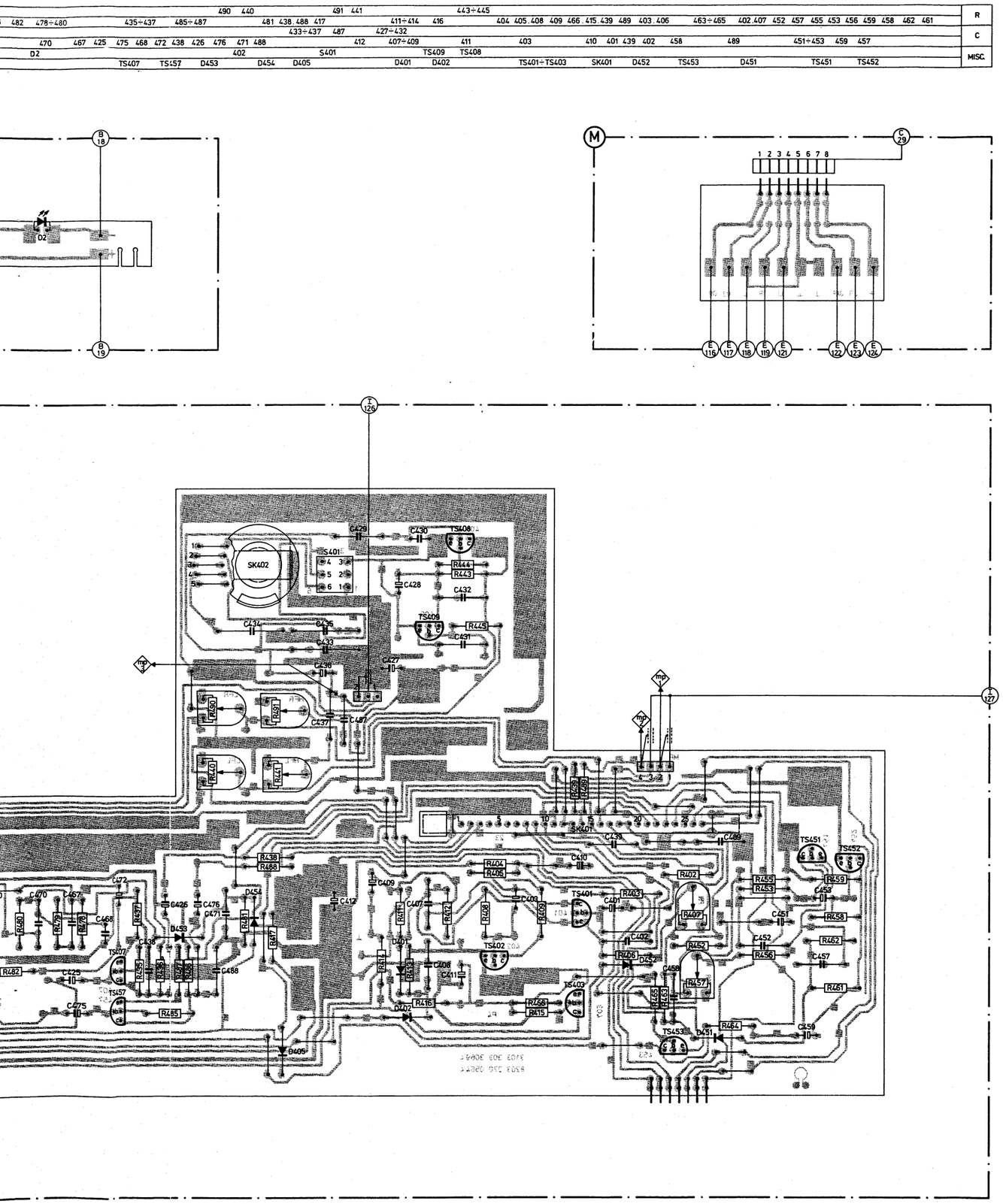


Fig. 10

30289 F 13


R
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MISC.
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B 19
M
C 29
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E 117
E 118
E 119
E 121
E 122
E 123
E 124
T 126
T 127
SK402
SK401
TS401
TS402
TS403
TS407
TS408
TS409
TS451
TS452
TS453
TS457
D2
D201
D202
D451
D453
D454
D605
C429
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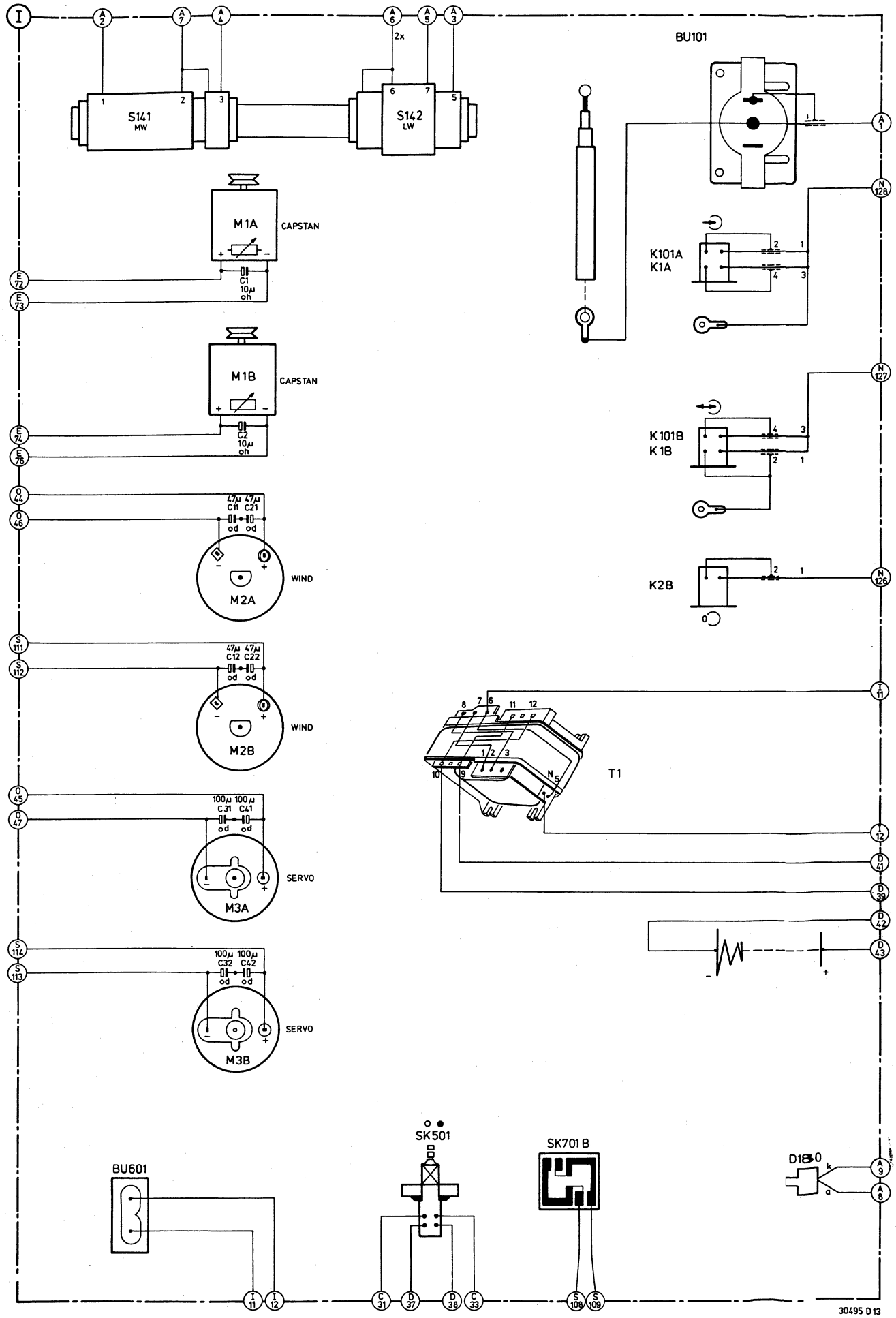

S141
MW
S142
LW
2x
BU101
M1A
CAPSTAN
C1
10µ
oh
M1B
CAPSTAN
C2
10µ
oh
K101A
K1A
K101B
K1B
K2B
47µ 47µ
C11 C21
od od
M2A
WIND
C12 C22
M2B
WIND
100µ 100µ
C31 C41
M3A
SERVO
C32 C42
M3B
SERVO
T1
BU601
SK501
SK701B
D180
30495 D13

Fig. 13a

| | | |

R	248.298.249.299 208.258 259.209.257.254.207.204 262÷265 214.216.266.269.271.268.272.222.217 294.202.267.297.252 296.251.295.288.250.253.203 246.201 280.230.233.283 220.270 229.279 231.281 255.205.206.256 215.212.213.284.234.219.221.242.236.218.282.232.292.293.240.241.290.228.278.274.239.291.286.277.276.289.226.227.225.275.238.245.224.287.244.247.237.243	R
C	288 252.253.287 255.206.204.254.256.258÷260 241.291.270.284.268.267.285.241.224.286 271.269.282.232.272.273 222 226 223 293.243.215.265.266.216 238 290 202.237.203 208÷210.205 230.264 280.207 233.213.263.214 283 279 219.217.229 211.212.261.262.221.234.218.220.236.235	C
MISC.	TS257.TS207 TS253 TS204.TS254 TS263 D210 IC251 S201 D211 TS203 TS206.TS256 IC201.TS213	MISC.

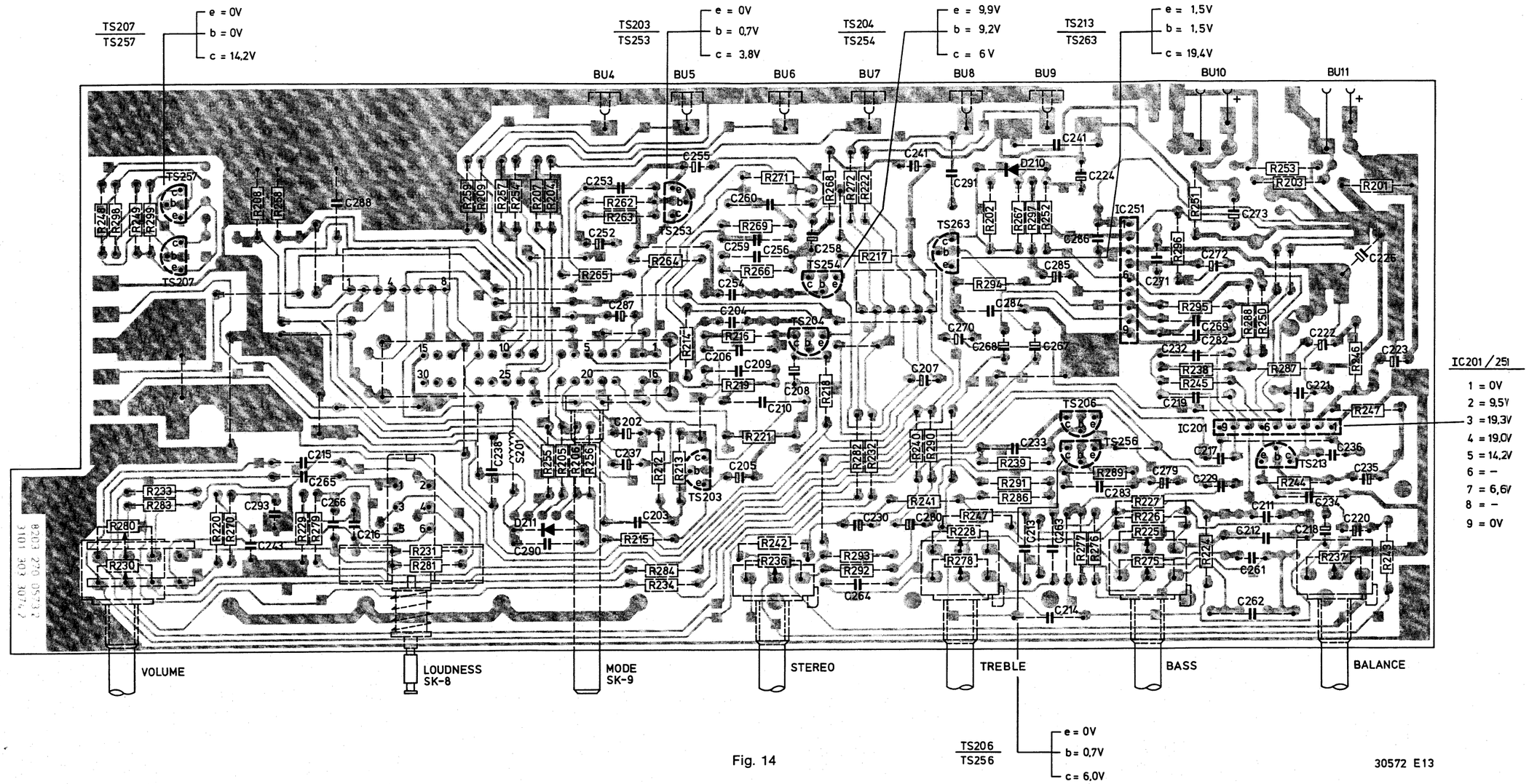
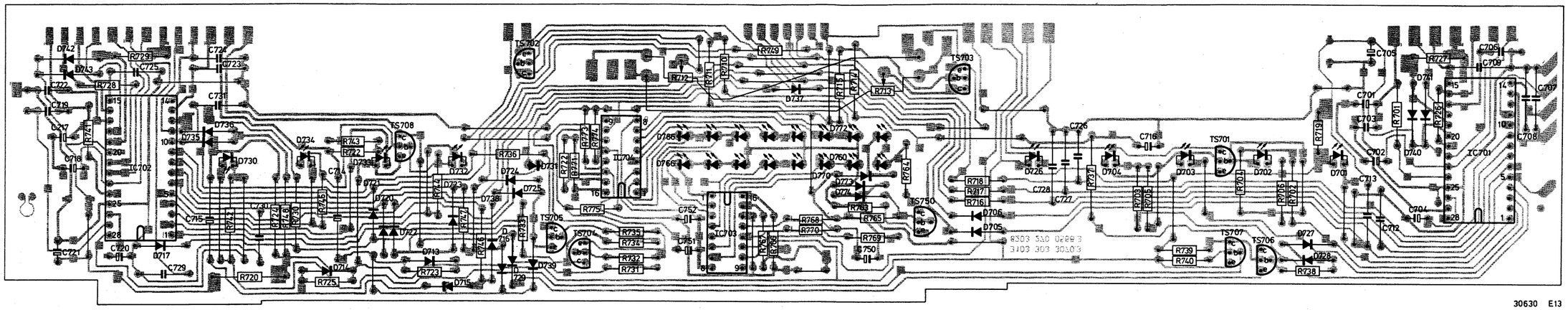


Fig. 14

30572 E13

R	741 728 729 / 742 720 748 730 / 745 743 722÷725 / 744 747 746 736 / 731÷735 722 771 773÷775 / 710÷712 749 / 766÷770.763÷765 713÷715 / 716÷718 / 737 703 739 740 704 706 702 / 738 719 701 726 727	R
C	217 718÷725 / 715 729÷731 / 714 / 750÷752 / 726÷728 716 / 701÷709 713 712	C
MISC.	D742 D743 IC702 D730 D734÷D736 / D733 D720÷D725 TS708 D732 / D738 TS702 D731 IC704 D786 D766 / D737 D760 D770 D772÷D774 TS703 D726 D704 D703 TS701 D702 D701 D740 D741 IC701 / D717 / D713÷D716 / D729 D739 TS705 TS704 / IC703 / TS750 / TS707 TS706 D727 D728	MISC.



30630 E13

Fig. 15

R	355.306.356.305	308	362÷370.336.386.315.391.314.358.316÷320	313.341	390.340	803.802.822.371.321.801.843	842	805÷809	330.331	816÷819	333.332.322.372	349.399.335.338.388.385.337.334	389.339.387.342÷348
	309.300.310.307.359÷361.323÷329.350.311.375.374.373.312	823÷828	832	833	836÷840	810.829÷831.804.821.820	811÷815	301÷304.351÷354	396.384.346	397.398.394.395.392			
C	302	354.353.305.356.380.330.357.361÷363.304.306	358.308	324.323	359.309	310	322.372	319.368.367.318.317					
	381.331	365.315.303	364.314	327.311÷313.329	328	307.326	333	332	325	320.370.321.371			
MISC.	TS301÷303	TS351.TS352.SK309	TS354.TS355	SK310.D352.TS304.TS305	SK308	SK307	SK306.D307	TS309.TS310.SK305	TS307.TS308.SK303.SK302	SK301	BU301	SK304	IC301
	D306.D303	TS306.TS356	TS311÷313.D317.D316	D302	D318÷D320	TS316.TS317.TS314	S301.S302	IC302.D311.D308					

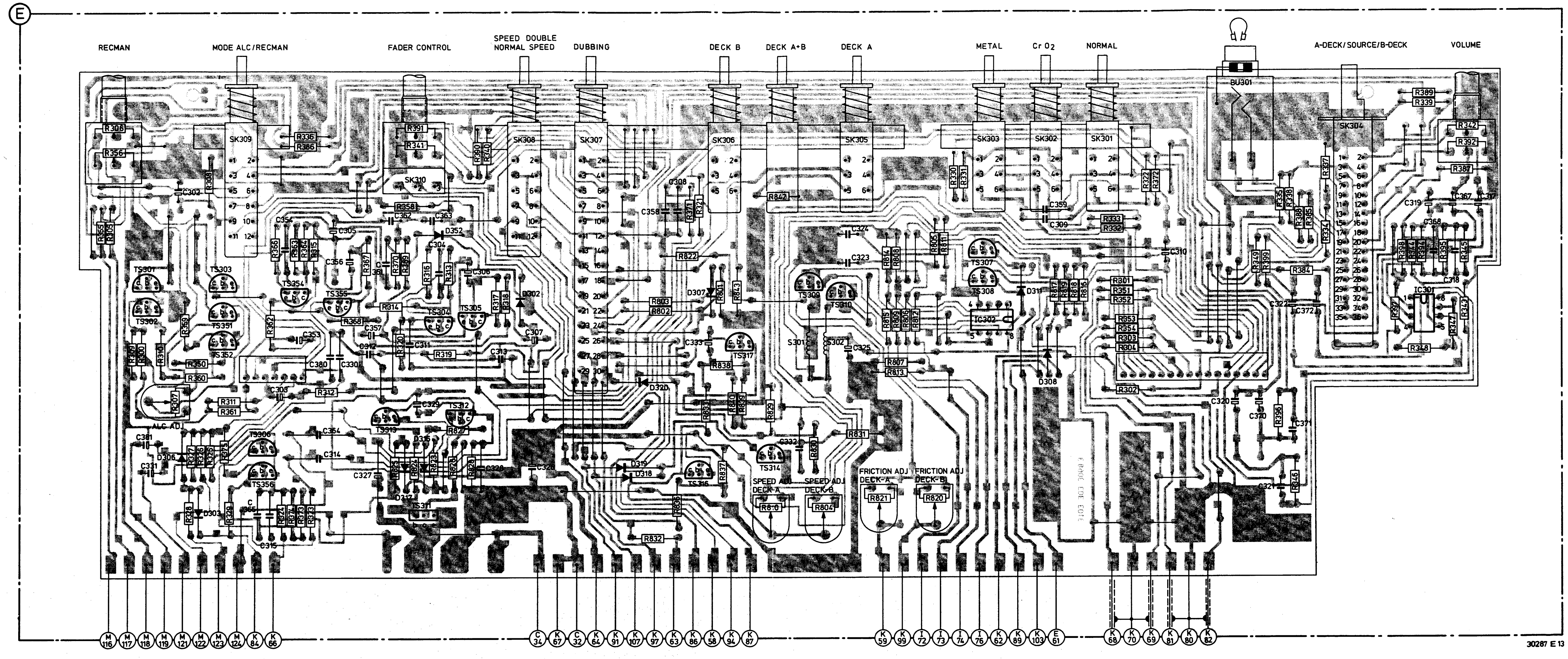


Fig. 16

(GB) DECASING: see Fig. 22

— Remove the 4 screws from the backplate 558. Pull the front 411 slightly backwards.
— Remove the aerial socket (snap-in construction) and the wiring connections.
— Remove P.C.B.1-H.F.-printed panel.
— Remove tuning knob 433, 3 screws and the connector.
— Remove P.C.B.2-L.F.-printed panel, PCB-5 mic-mix-printed panel.
— Remove the knobs 404, 406, 407, 3 screws and the connector.
— Remove P.C.B.4-REC/PLAY B-printed panel.
— Remove 6 screws and the distance pieces 557.
— Remove PCB4 from the plug connection with PCB3.
— Loosen th 3 connectors.

Note: upon mounting P.C.B.4 pay attention to SK-4 and lever 447.

— Now tape deck B is loose too. Pay attention to belt 452.
— Remove PCB9- operating printed panel for tape deck.
— Remove 4 screws.
— Remove PCB7- tape deck control/LED indication printed panel.
— Remove 8 screws and the slide knob 441.
— Remove PCB3- main control printed panel.
— Remove the knobs 412, 413, 423, 437 and the 3 screws.
— Remove cassette lid 416.
The lid can be removed by bending slightly inwards the tags, in open position (Pay attention to the locking bracket 555).

(F) DEMONTAGE voir Fig. 22

— Enlever les 4 vis du panneau arrière 558, tirer légèrement la façade 411 vers l'arrière.
— Enlever la prise d'antenne (verrou à déclic) ainsi que les connexions de câblage.
— Enlever la platine B1- la platine H.F.
— Extraire le bouton d'accord 433, les 3 vis et le connecteur.
— Enlever la platine 2, la platine B.F., la platine 5 MIG-MIX ainsi que les boutons 404, 406, 407, les 3 vis et le connecteur.
— Extraire la platine 4- la platine REC/PLAY B.
— Enlever la platine 4 de la connexion d'enfichage avec la platine 3, détacher les 3 connecteurs.
— En montant la platine 4 sur SK-4, faire attention au levier 447.
— La mécanique B est à présent aussi détachée, faire attention à la courroie 452.
— Retrait de la platine 9- platine de commande de la mécanique.
— Enlever les 4 vis.
— Retrait de la platine 7- commande de la mécanique/platine d'indic. LED.
— Enlever les 8 vis et faire glisser le bouton 441.
— Retrait de la platine 3- platine de commande principale.
— Enlever les boutons 412, 413, 423, 437 et les 3 vis.
— Retrait du rabat de cassette 416.
Le rabat pourra être enlevé en pressant légèrement languettes vers l'intérieur en position ouverte (faire attention à l'étrier de verrouillage 555).

(NL) UITKASTEN Fig. 22

— Verwijder de 4 schroeven uit de achterwand 558, trek het front 411 iets naar achteren.
— Verwijder de antenne bus (snap-verbinding) en de bedradings aansluitingen.
— Verwijdering P.C.B.1- H.F. print.
— Verwijder afstemknop 433, 3 schroeven en de connector.
— Verwijdering P.C.B.2- L.F. print, PCB5 mic-mix print.
— Verwijder de knoppen 404, 406, 407, 3 schroeven en de connector.
— Verwijdering P.C.B.4- REC/PLAY B print.
— Verwijder 6 schroeven en de afstand stukjes 557.
— Verwijder PCB4 uit de steekverbinding met PCB3, neem de 3 connectoren los.
Let bij het monteren van PCB4 op SK-4 en lever 447.
— Ook het tape deck B ligt nu los; let op de snaar 452.
— Verwijdering PCB9- tape deck bedieningsprint.
— Verwijder 4 schroeven.
— Verwijdering PCB7- tape deck sturing/LED indec-print.
— Verwijder 8 schroeven en de schuif knop 441.
— Verwijdering PCB3- hoofdstuur print.
— Verwijder de knoppen 412, 413, 423, 437 en de 3 schroeven.
— Verwijdering cassette klep 416.
De klep kan worden verwijderd door de lippen bij geopende stand iets naar binnen te drukken (let op vergrendelbeugel 555).

(D) AUSBAU: Abb. 22

— Die 4 Schrauben aus der Rückwand 558 entfernen. Die Vorderplatte ein wenig rückwarts ziehen.
— Die Antennenbuchse (Schnappverbindung) und die Verdrähtungsanschlüsse entfernen.
— P.C.B.1- H.F.-Printplatte entfernen.
— Abstimmknopf 433, 3 Schrauben und die Steckerleiste entfernen.
— P.C.B.2- L.F-Printplatte, P.C.B.5 MIC-MIX-Printplatte entfernen.
— Die Knöpfe 404, 406, 407, 3 Schrauben und die Steckerleiste entfernen.
— P.C.B.4- REC/PLAY B-Printplatte entfernen.
— 6 Schrauben und die Abstandstücke 557 entfernen.
— PCB4 aus der Steckverbindung mit PCB3 entfernen und die 3 Steckerleisten losnehmen.

Bemerkung: Achten Sie beim Montieren von PCB4 auf SK-4 und Hebel 447.

— Auch das Einbauchassis B ist jetzt gelöst. Achten Sie auf Riemen 452.
— PCB9- Bedienungsprintplatte für das Einbauchassis entfernen.
— 4 Schrauben entfernen.
— PCB7- Einbauchassissteuerung/LED-Anzeige-printplatte entfernen.
— 8 Schrauben und Schiebeknopf 441 entfernen.
— PCB3- Hauptsteuerungsprintplatte entfernen.
— Die Knöpfe 412, 413, 423, 437 und die 3 Schrauben entfernen.
— Kassettedeckel 416 entfernen.
— Deckel kann entfernt werden, dadurch dass in geöffnetem Zustand die Lippen etwas inwärts gedrückt werden (Achten Sie auf den Sperrbügel 555).

(I) SMONTAGGIO vedere Fig. 22

— Togliere le 4 viti del pannello posteriore 558, tirare un po il pannello frontale verso il didietro.
— Togliere la presa d'antenna (dispositivo a scatto) e anche il collegamenti di cablaggio.
— Togliere la piastra B1- la piastra A.F.
— Levare la manopola di accordo 433, le 3 viti e il collegamento.
— Togliere la piastra 2- piastra B.F.- piastra 5 MIG-MIX cosi come le manopole 404, 406, 407, le 3 viti e il collegamento.
— Togliere la piastra 4- piastra REC/PLAY B.
— Levare la piastra 4 del collegamento d'inserimento con la piastra 3, staccare i 3 collegamenti.
— Nel montare la piastra 4 su di SK-4 fare attenzione alla leva 447.
— Il meccanismo B è anche staccato, fare attenzione alla puleggia 452.
— Levare la piastra 7 controllo del meccanismo/-piastra d'indic.
— Levare la piastra 3. Piastra principale di comando.
— Togliere le manopole 412, 413, 423, 437 e le 3 viti.
— Come levare il coperchio del vano cassette 416. Questo potrà essere tolto mentre si spinge un poco le linguette verso dentro in posizione aperta (stare attento alla squandra di chiusura 555).

(GB) DISMANTLING INSTRUCTIONS DECK A-B

Replacement of the tape-transport parts (refer to Fig. 17)

To replace the pressure roller, remove item 63 and item 66.
To replace the head plate, depress the plate near the lugs and take it out in an oblique upward direction.

Note:
See to that the 3 balls (item 60) do not get lost.

ADJUSTMENTS AND CHECKS

Height of the recording/playback head K1, Fig. 17

— Switch off the supply voltage.
— Slide adjusting jig 4822 402 60245 over the capstan while pressure roller 62 is slightly pulled back.
— The jig must be slid over the capstan to an extent that it is in line with the erase head guides.
— The R/P-head must now be so adjusted that the jig slides exactly between the tape guides of the two heads.

Friction take-up

The friction force can be measured with the friction measurement cassette 4822 395 30054 (811/CTM) in position "start"
Normal speed; 4.76 cm/s.
The measuring value must be:
— Take up side 40...45 gcm.
— Counter side: 2-5 gcm.
— The play take-up torque is adjusted with R821 (deck A); R820 (deck B)
Double speed; 9.52 cm/s.
— Take up side 60...70 gcm.
— Counter side 2-5 gcm.
— The play up torque can be checked only at double speed.

Checking the lace-up and the capstan adjustment

— Recorder in position "playback" with the mirror cassette inserted.
— When the tape at the capstan moves upwards or downwards, adjust the capstan to be perpendicular by means of item 74 on the flywheel pivot bearing (Fig. 17).
— The tape should be straight and smooth between the tape guides and along the capstan.
Small deviations from this pattern are permissible, because they do not have an effect for normal cassettes.

Adjusting the flywheel play

— The flywheel play should be noticeable, but may not exceed 0.2 mm.
Adjust by turning item 73 (Fig. 17).

(NL) DEMONTAGE DECK A-B

Loopwerkonderdelen (Fig. 17)

De drukrol is te vervangen na verwijderen van pos. 63 en pos. 66.
De koppenschuif is te vervangen door de schuif bij de lipjes in te drukken en schuin naar voren van het loopwerk te nemen.

Opmerking:
Pas op dat de 3 kogeltjes pos. 60 niet zoekraken.

INSTELLINGEN EN KONTROLES

Kophoogte o/w kop K1, Fig. 17

— Schakel de voedingsspanning van het apparaat uit.
— Schuif de instelmal 4822 402 60245 over de toonas 72 terwijl de drukrol 62 iets teruggetrokken wordt.
— De mal moet zover over de toonas geschoven worden, dat deze zich in het verlengde van de wiskopbandgeleiders bevindt.
— De o/w-kop moet zodanig ingesteld worden, dat de mal precies tussen de bandgeleiders van beide koppen schuift.

Opspoelfrictie

De frictiekracht kan worden gemeten met de frictie-meetcassette 4822 395 30054 (811/CTM) in positie "start".
Normale snelheid; 4,76 cm/s.
De meetwaarde moet zijn:
— Opspoelzijde 40...45 gcm.
— Afspoelzijde: 2-5 gcm.
— De opspoelfrictie wordt met R821 (deck A); R820 (deck B) afgeregeld.
Dubbele snelheid 9,52 cm/s.
— Opspoelzijde 60...70 gcm.
— Afspoelzijde 2-5 gcm.
— De opspoelfrictie kan bij dubbele snelheid slechts gecontroleerd worden.

Kontrole van de bandloop en toonasinstelling

— Apparaat in stand weergave met de spiegelcassette.
— Wanneer de band bij de toonas naar boven of naar beneden gaat moet de toonas loodrecht worden ingesteld op het vliegwieltaatslager m.b.v. pos. 74, Fig. 17.
— De band moet recht en gestroomlijnd tussen de bandgeleiders en langs de toonas lopen.
Kleine afwijkingen in dit patroon zijn toelaatbaar, omdat dit bij normale cassettes geen invloed heeft.

Instelling van de vliegwielspeling

— De vliegwielspeling moet voelbaar zijn maar mag niet meer dan 0,2 mm bedragen.
Instellen door pos. 73 te verdraaien (Fig. 17).

(F) DEMONTAGE DECK A-B

Pièces de la mécanique (Fig. 17)

Après avoir enlevé le rep. 63 et 66 le galet presseur pourra être ôté.
La coulisse des têtes peut être enlevée en la pressant à l'endroit des languettes et en l'extrayant obliquement devant la mécanique.

Remarque:
Faire attention de ne pas perdre les 3 billes rep. 60.

REGLAGES ET CONTROLES

Réglage de la hauteur de la tête enreg./repro., Fig. 17

— Couper la tension d'alimentation.
— Glisser le gabarit de réglage 4822 402 60245 sur le cabestan tout en repoussant légèrement le galet presseur 62.
— Le gabarit doit être glissé sur le cabestan 72 jusqu'à ce que ce dernier soit dans le prolongement des guide-bande de la tête d'effacement.
— Régler à présent la tête enreg./repro. de façon que le gabarit puisse se placer exactement entre les guide-bande des deux têtes.

Friction d'embobinage

La force nécessaire à l'enroulement est mesurable par la cassette 4822 395 30054 (811/CTM) en position "start".
La valeur doit être de:
Vitesse normale; 4,76 cm/s
— Côté enroulement 40...45 gcm.
— Côté dévidé: 2...5 gcm.
— La friction de bobinage est réglable par R821 (deck A); R820 (deck B).
Vitesse double; 9,52 cm/s.
— Côté enroulement 60...70 gcm.
— Côté dévidé 2..5 gcm.
La friction d'embobinage ne peut être contrôlée qu'au double de la vitesse.

Contrôle de l'entraînement de la bande et réglage du cabestan

— Appareil dans la position de reproduction avec la cassette à miroir.
— Lorsque la bande sur le cabestan s'élève ou s'abaisse, le cabestan doit être réglé perpendiculairement à l'aide du rep. 74 (Fig. 17) sur le palier de volant.
— La bande doit défiler bien droit et régulièrement entre les guide-bande et le long du cabestan. De petits écarts à cet égard sont admissibles, parce que ceci n'a aucune influence pour les cassettes normales.

Réglage du jeu du volant

— Le jeu du volant doit être perceptible, mais ne doit pas dépasser 0,2 mm. A régler à l'aide du rep. 73 (Fig. 17).

(D) ANWEISUNGEN ZUM AUSBAU DECK A-B

Laufwerkteile (Bild 17)

Die Andruckrolle lässt sich nach Beseitigung der Positionen 63 und 66 auswechseln.
Der Kopfschieber lässt sich auswechseln, dadurch dass der Schieber an den Zungen eingedrückt und schräg vorwärts vom Laufwerk genommen wird.

Bemerkung:
Darauf achten, dass die 3 Kügelchen Pos. 60 nicht verlorengehen.

EINSTELLUNGEN UND PRÜFUNGEN

Kopfhöhe des A/W-Kopfes K1, Abb. 17

— Die Speisespannung des Apparats ausschalten.
— Die Einstellehre 4822 402 60245 auf die Tonachse 72 schieben, während die Andruckrolle 62 etwas zurückgezogen wird.
— Die Lehre ist so weit auf die Tonachse zu schieben, dass sie sich in der Verlängerung der Löschkopf-bandführungen befindet.
— Der A/W-Kopf ist so einzustellen, dass die Lehre genau zwischen die Bandführungen der beiden Köpfe schiebt.

Aufwickelfriktion-VL

Die Friktionskraft kann mit der Friktionsmesscassette 4822 395 30054 (811/CTM) in der Start-Stellung gemessen werden.
Der Messwert soll betragen:
Normale geschwindigkeit; 4,76 cm/s.
— Aufwickelseite 40...45 g.cm.
— Abwickelseite 2...5 g.cm.
— Die Wiedergabe-Aufwickelfriktion wird mit R821 (deck A); R820 (deck B) eingestellt.
Doppelter Geschwindigkeit; 9,52 cm/s.
— Aufwickelseite 60...70 gcm.
— Abwickelseite 2...5 gcm.
Der Aufwickelfriktion kann bei doppelter Geschwindigkeit lediglich geprüft werden.

Kontrole des Bandlaufs und der Tonwelleneinstellung

— Gerät in Stellung Wiedergabe, mit der Spiegel-cassette.
— Falls das Band bei der Tonwelle nach oben oder nach unten geht, muss die Tonwelle mit pos. 74 auf dem Schwungradlager (Abb. 17) senkrecht eingestellt werden.
— Das Band muss gerade und genau fluchtend zwischen den Bandführungen und an der Tonwelle entlang laufen.
— Minimale Abweichungen sind hierbei zulässig, weil dies bei normalen Cassetten keine nachteiligen Folgen hat.

Einstellung des Schwungradspiels

— Das Schwungradspiel muss fühlbar sein aber darf nicht mehr als 0,2 mm betragen. Einstellen mit pos. 73, Abb. 17.

(I) SMONTAGGIO DECK A-B

Sostituzione di parti relative al trasporto nastro (vedi Fig. 17)

Per sostituire il rullo pressore, togliere pos. 63 e pos. 66.
Per sostituire la piastra della testina, premere la piastra vicina alle linguette e toglierla sollevandola obliquamente.

Nota:
Fare attenzione di non perdere le 3 sferette (pos. 60).

REGOLAZIONE E CONTROLLI

Regolazione dell'altezza della testina di reg/rip K1 Fig. 17

- Togliere la tensione d'alimentazione.
- Far slittare la dima 4822 402 60245 sul capstan 72 mentre il rullo pressore 62 è leggermente spinto indietro.
- La dima deve essere slittata in modo che il suo prolungamento si trovi in linea con le guide delle testina di cancellazione.
- La testine reg/rip può ora essere regolata.
  La dima deve trovarsi tra le guide delle due testine.

Frizione d'avvolgimento veloce

La forza della frizione deve essere regolata con la cassetta 4822 395 30054 (811/CTM) in posizione "riproduzione".

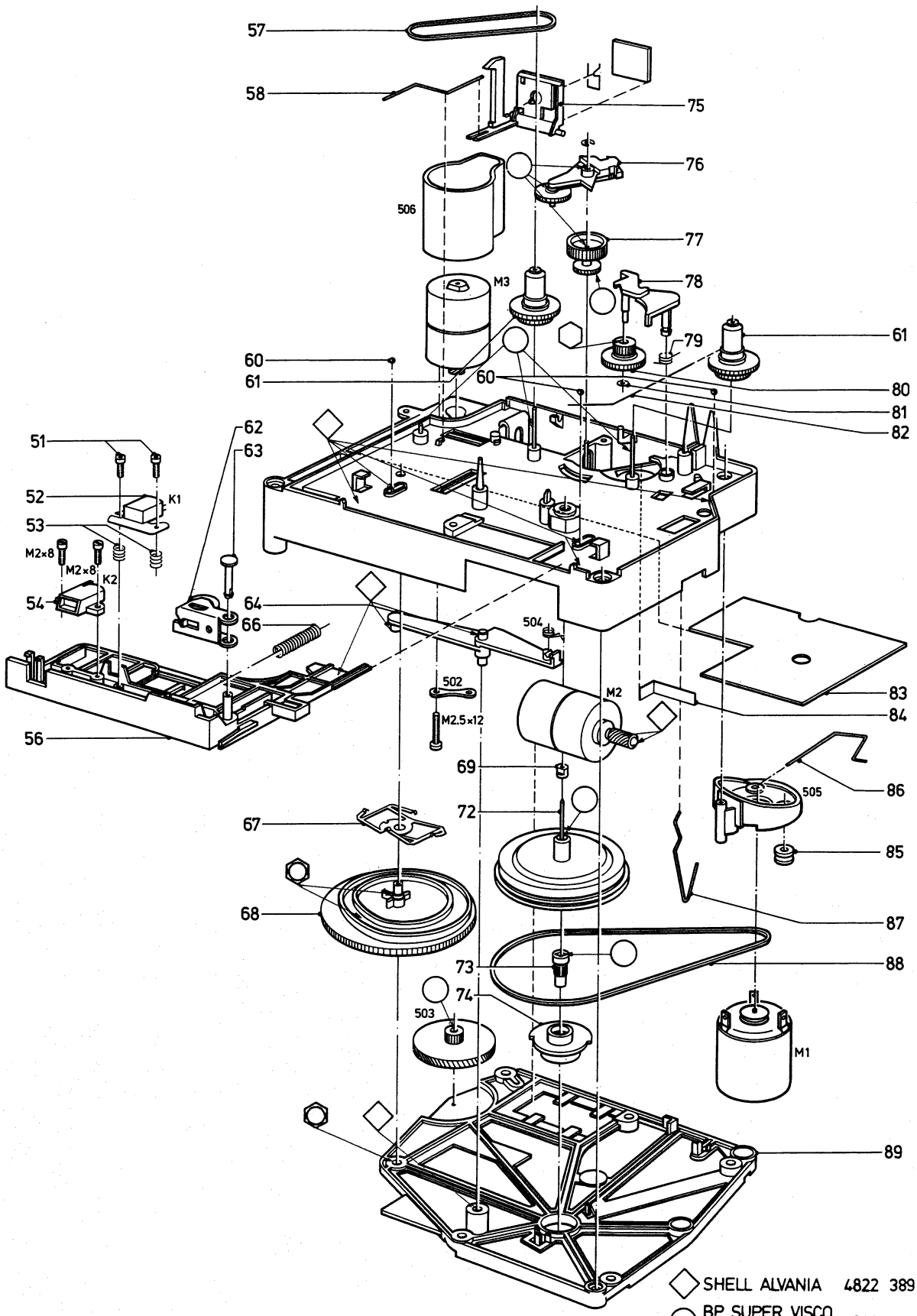
Il valore deve essere:
Velocità normale; 4,76 cm/s.
- Bobina di destra 40...45 gcm.
- Bobina di sinistra 2-5 gcm.
- La frizione di avvolgimento è regolabile con R821 (deck A); R820 (deck B).
  Doppia velocità.
- Bobina di destra 60...70 gcm.
- Bobina di sinistra 2...5 gcm.
  La frizione di avvolgimento può essere controllata unicamente alta doppia velocità.

Controllo del bloccaggio e regolazione del cabestan

- Piastra di registrazione in posizione "riproduzione" con la cassetta a specchio inserita.
- Quando il nastro sul capstan si muove o verso l'alto o verso il basso, regolare il capstan afinchè sia perpendicolare per mezzo della pos. 74 (Fig. 17) sulla bussola del perno del volano.
- Il nastro deve scorrere diritto e piatto tra le guide nastro e il capstan.
  Piccole variazioni di questo tipo sono ammesse perchè non hanno alcun effetto su cassette normali.

Regolazione del gioco del volano

- Il gioco deve essere visibile ma non deve superare i 0,2 mm.
  Regolare ruotando pos. 73 (Fig. 17).



◇ SHELL ALVANIA 4822 389 10001

○ BP SUPER VISCO STATIC 4822 815 30022

⬡ SILICON OIL AK30.000 4822 390 10068

⬢ SILICON EMULSION 7/22

30 235E12

Fig. 17

51	4822 502 11454	63	4822 462 71108	76	4822 403 40117	86	4822 492 61989
52	4822 249 10157	64	4822 403 51381	77	4822 522 31318	87	4822 492 62303
53	4822 492 51229	66	4822 492 51334	78	4822 403 51379	88	4822 358 30294
54	4822 249 40107	67	4822 492 62304	79	4822 492 40894	89	4822 520 10446
56	4822 403 51378	68	4822 522 31317	80	4822 522 31319		
57	5322 358 34017	69	4822 520 30296	81	4822 530 70043		
58	4822 492 62302	72	4822 528 60142	82	4822 492 62367		
60	4822 520 40005	73	4822 502 11462	83	4822 218 10133		
61	4822 528 20301	74	4822 528 30236	84	4822 492 62301		
62	4822 403 51071	75	4822 277 10613	85	4822 325 60038		

(GB)

[1] Place the peak of the band-pass curve in the middle of the picture by shifting the sweep frequency.

[2] Adjust for maximum height and symmetry.

[3] Adjust for linearity and symmetry of the S-curve.

(NL)

[1] De top van de doorlaatkromme in het midden van het scherm plaatsen door verschuiven van de wobbelfrequentie.

[2] Afregelen op maximum hoogte en symmetrie.

[3] Afregelen op lineariteit en symmetrie van de S-kromme.

(F)

[1] Le top de la courbe de réponse doit être amené au centre de l'écran par glissement de la fréquence de modulation.

[2] Ajuster sur hauteur et symétrie maximum.

[3] Ajuster pour la linéarité et la symétrie de la courbe en S.

(D)

[1] Die Spitze der Durchlasskurve in der Mitte des Bildes legen dadurch, dass man die Wobbelfrequenz verschiebt.

[2] Abgleichen auf Maximalhöhe und Symmetrie.

[3] Abgleichen auf Linearität und Symmetrie der S-Kurve.

"Bei notwendigem Abgleich ist das Gerät auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen."

(I)

[1] Il pico della curva di risposta deve trovarsi al centro dello schermo, il chè si farà spostando la frequenza di Wobbulazione.

[2] Regolare per un massimo di altezza e di simetria.

[3] Regolare per linearità e simetria della curva ad S.

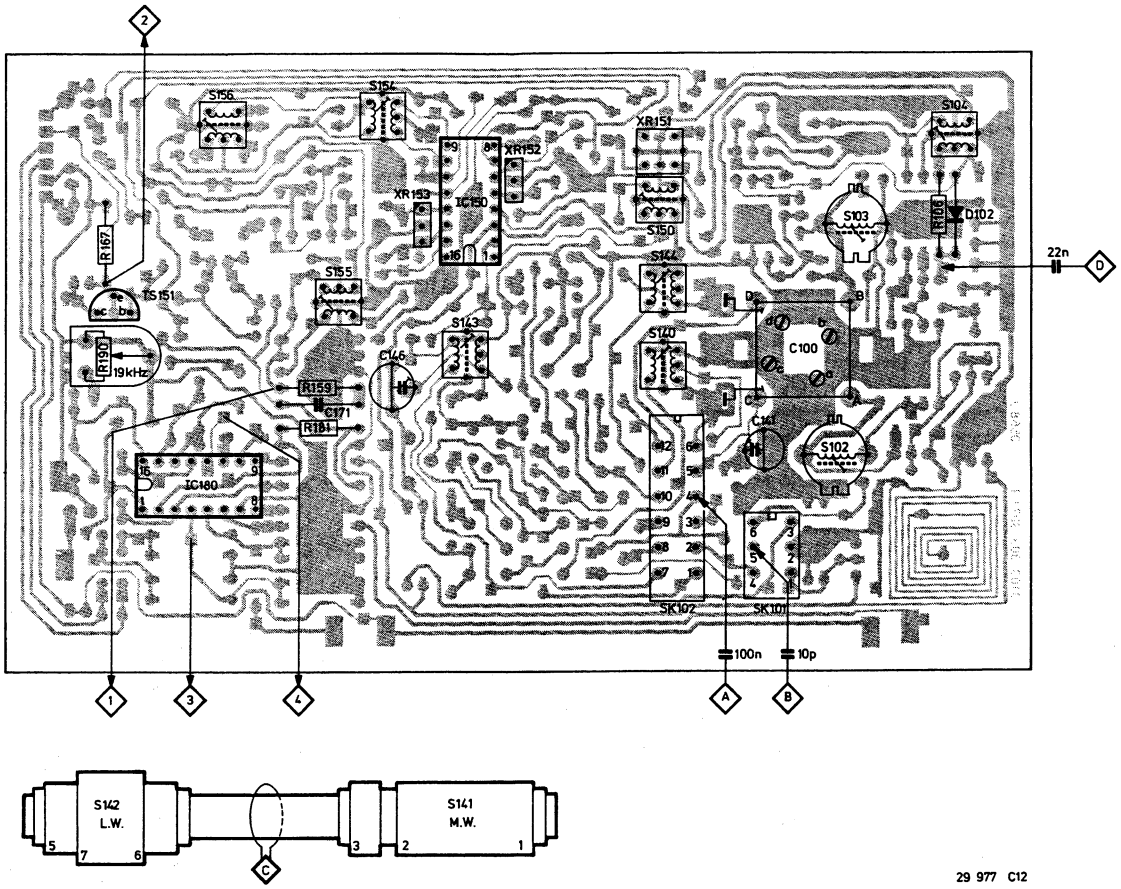


Fig. 19

R	199.188÷190 184÷187 181÷183.198.159.155.173.121 174 101.102 163÷168 169.170 172.162.160.158.157.180.161.152 154.153.156.151.150 109.103.105.108 104.106.107	R
C	193.187.188.194.184.189÷192.183.185.186.181.182.171.164.146.151.148 149.175 140.141.143 118 101.104 102.103 174.169.168.162.170.165÷167.180.163.161.157.160 176.156.154.153.159.177.144.139.158.173.150 147 155.145.108 113÷116.106.152.110.111.117.105.109	C
MISC.	IC180 SK104 SK103 SK102 SK101 S102.TS157.D101.TS101 TS151.D152.D150.S156.D151.TS150.TS180.S155.S154.XR153.S143.IC150.XR152 S140.S144.S150.XR151 TS104 TS102 S103 TS103.D102.S104	MISC.

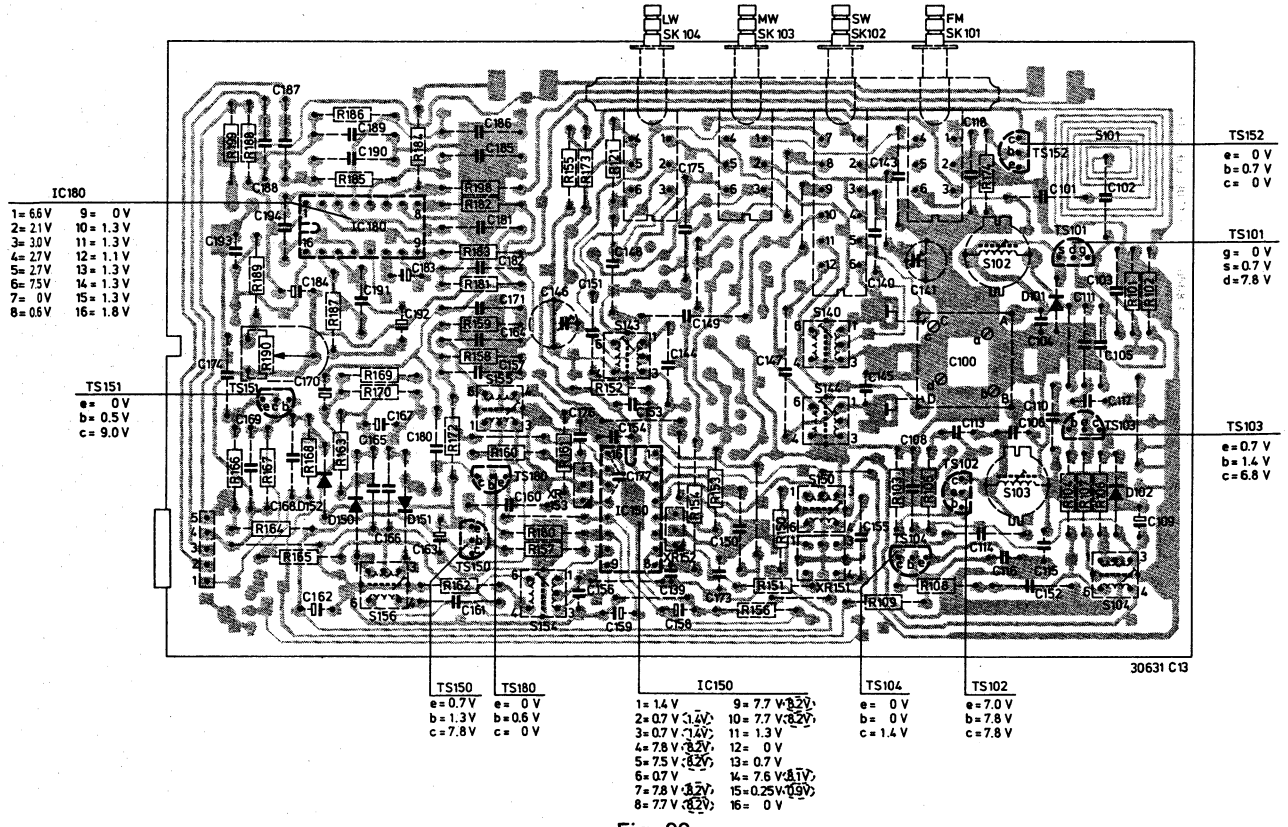


Fig. 20

SK			C100			
MW-SK103	468 kHz *	A	Min. cap	S150 S155		↕ 1 max.
SW-SK102	5.8 MHz *	B	Max. cap.	S144		↕ 1 max.
	18.2 MHz *		Min. cap.	C100d		
	17.0 MHz *			C100c		↕ 1 max.
	6.2 MHz *			S140		
MW-SK103	1635 kHz *	C	Min. cap.	C146		↕ 1 max.
	512 kHz *		Max. cap.	S143		
	560 kHz *			S141		↕ 1 max.
	1500 kHz *			C141		
LW-SK104	148 kHz *	C	Max. cap.	S143		↕ 1 max.
	200 kHz *			S142		
FM-IF						
FM-SK101	10.7 MHz Δf (sweep range) 10-11 MHz	D			2 1	↕
				S154 S104	2 2	
				S156	3 3	
FM-RF						
FM-SK101	87.35 MHz *	B	Max. cap.	S103** S102**	2	↕
	108 MHz *		Min. cap.	C100b C100a		

*+ 1 kHz mod.

Stereo-Decoder				
FM-SK101	no signal		R190	4 freq. counter 19 kHz ± 0.2 kHz

**Trimming rod 4822 395 50135

↕ Repeat - Herhalen - Répéter - Wiederholen - Ricomminciare - Repetera - Gentage - Gjentagelse - Toista

Fig. 18

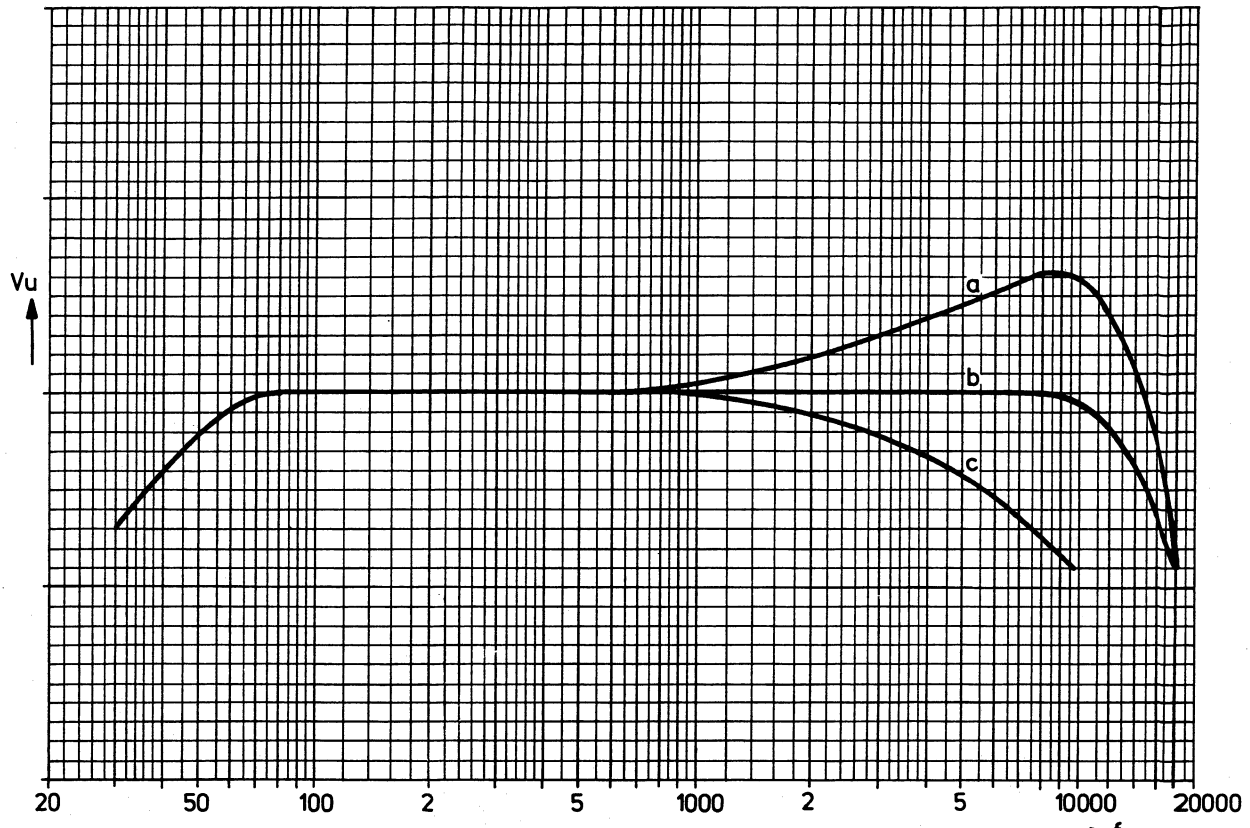


Fig. 21

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(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

(S)

Säkerhetsbestämmelserna kräver att varje reparation skall utföras korrekt med hänsyn till ursprunglig placering av komponenter, ledningar etc. och med användning av föreskrivna reservdelar.

(DK)

Myndighedernes sikkerheds- og radiostøjbestemmelser kræver, at enhver reparation skal udføres korrekt m.h.t. overholdelse af originalplacering og montering af komponenter, ledningsunder, etc, og ved anvendelse af de foreskrevne reservedele.

(N)

Sikkerhetsbestemmelser kreves at apparatet blir gjennoprettet til original utførelse og at deler som er identiske med de som er spesifisert, blir benyttet.

(SF)

Korjatessa laitetta on turvallisuussyistä ehdottomasti eneteltävä oikein ja käytettävä tehtaan määräämiä alkuperäisvaraosia.

401	4822 410 22873
402	4822 410 22871
403	4822 410 22872
404	4822 413 31113
405	4822 492 62809
406	4822 413 31112
407	4822 413 31111
408	4822 492 62796
409	4822 410 22877
411	4822 443 30471
412	4822 413 31114
413	4822 413 31115
414	4822 410 22875
416	4822 443 61048
417	4822 492 62794
423	4822 413 41118
426	4822 492 62795
427	4822 410 22876
428	4822 450 80835
429	4822 526 10182
431	4822 410 22874
432	4822 528 50116
433	4822 413 31116
434	4822 413 41119
436	4822 410 22878
438	4822 349 50136
439	4822 535 70618
441	4822 411 60889
442	4822 321 30214
443	4822 413 41117
444	4822 492 62247
446	4822 492 31734
447	4822 403 30363
448	4822 528 90335
449	4822 492 40799
451	5322 358 20162
452	5322 358 34017
453	4822 492 50824
454	4822 492 62233
456	4822 492 62234
458	4822 498 50145
459	4822 303 30248
461	4822 443 61047
462/..	4822 321 10105
462/05	4822 321 10235

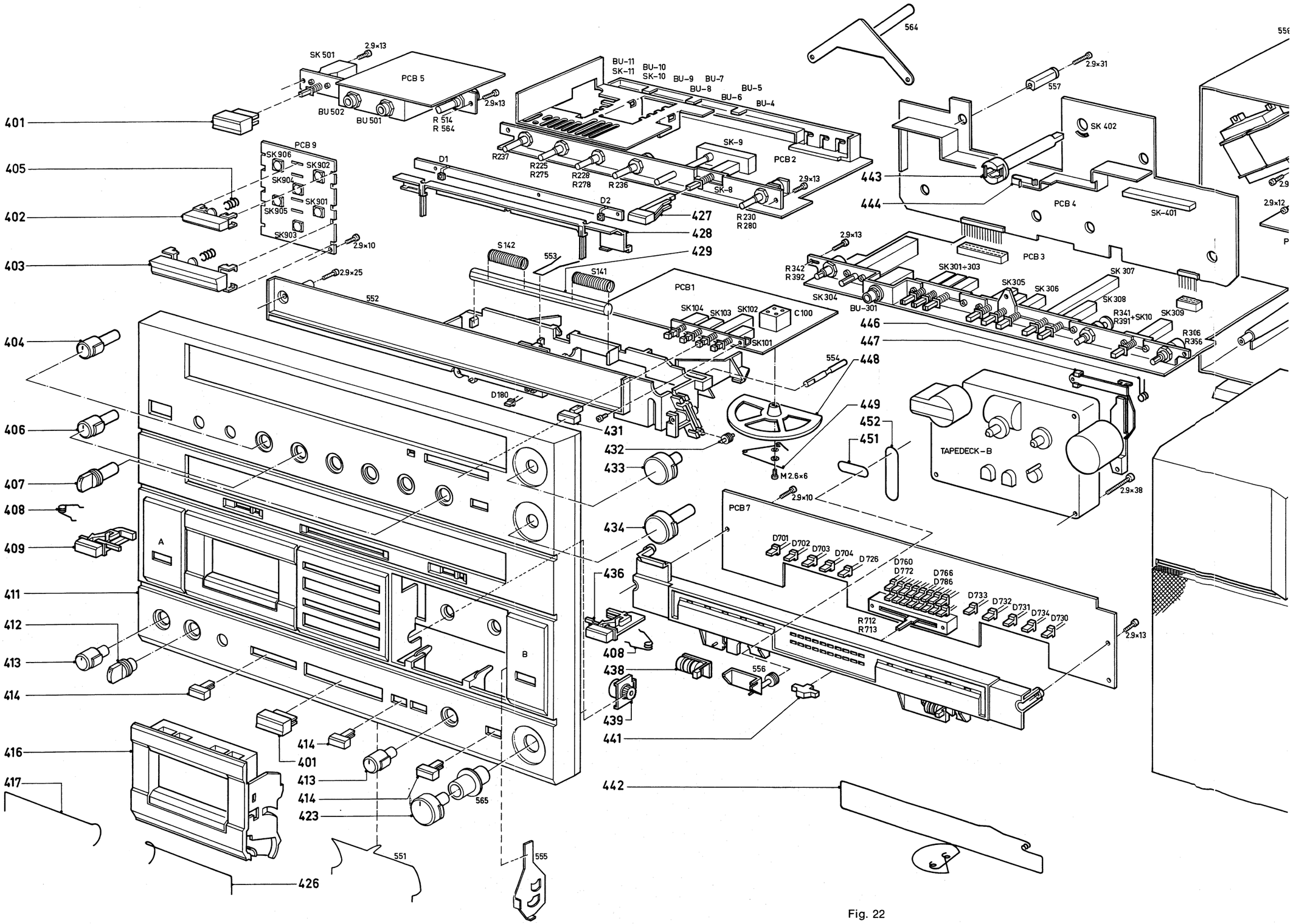


Fig. 22

CS 84 399

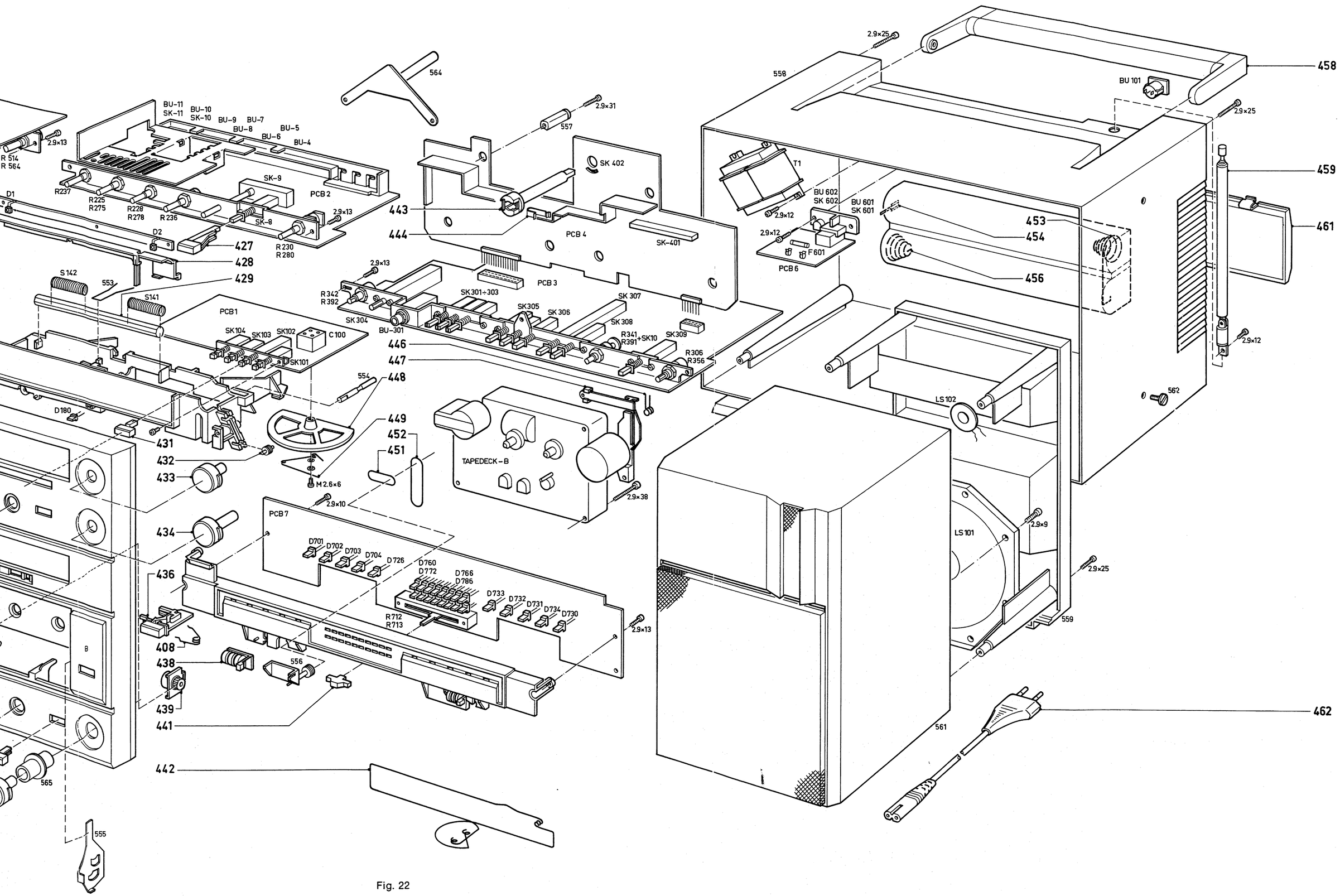

564
2.9×31
557
2.9×25
558
458
BU 101
2.9×25
459
461
T1
BU 602
SK 602
BU 601
SK 601
2.9×12
2.9×12
F 601
PCB 6
453
454
456
2.9×12
562
LS 102
LS 101
2.9×9
2.9×25
559
462
561
BU-11
SK-11
BU-10
SK-10
BU-9
BU-7
BU-8
BU-6
BU-5
BU-4
2.9×13
R 514
R 564
SK-9
PCB 2
R237
R225
R275
R228
R278
R 236
SK-8
2.9×13
D1
D2
427
428
429
R 230
R 280
443
444
SK 402
PCB 4
SK-401
PCB 3
S 142
553
S141
PCB1
SK104
SK103
SK102
C 100
SK101
2.9×13
R 342
R 392
SK 304
SK 301÷303
BU-301
SK305
SK 306
SK 307
SK 308
SK 309
R341+SK10
R391
R 306
R356
446
447
554
448
D180
431
432
433
449
452
451
M 2.6×6
TAPEDECK-B
2.9×38
2.9×10
PCB 7
434
436
D701
D702
D703
D704
D 726
D760
D772
D766
D786
D733
D732
D731
D734
D730
R712
R713
2.9×13
408
438
556
439
441
442
565
555

Fig. 22

-IC-		
IC150	TEA5570	4822 209 81414
IC180	AN7410	4822 209 80683
IC201 IC250	TDA1011A	4822 209 80934
IC301	TDA2320	4822 209 81432
IC302	NE532V	4822 209 80818
IC701 IC702	U471B	4822 209 81415
IC703 IC704	R-2E02	4822 209 80943

-TS-		
TS101(FET)	2SK168E	4822 130 41943
TS311	BD436	4822 130 40995
	BC337-25	4822 130 40981
	BF495D	4822 130 41498
	BC548	4822 130 40938
	BC548A	4822 130 40948
	BC548B	4822 130 40937
	BC548C	4822 130 44196
	BC549	4822 130 40964
	BC550C	4822 130 41096
	BC558B	4822 130 44197

-D-		
D1,D2	LN25RP (LED)	4822 130 31923
D180	GL-9NG9 (LED)	4822 130 31433
	LN217RP (LED)	4822 130 31481
	LN417YP (LED)	4822 130 31902
D760,D772	(LED BAR)	4822 130 31471
D766,D786	(LED BAR)	4822 130 31469
	IN4148	4822 130 30621
	OA95	4822 130 30191
	IN4001	4822 130 31438

-D-		
D307	BZX79/C6V2	4822 130 31111
D316	BZX79/C4V7	4822 130 34174
D321	BZV46 C1V5	5322 130 34865
D601	S2VB	4822 130 30993
D717 D770	BZX79/C5V6	4822 130 34173

-S-		
S102,S103		4822 158 10515
S102		4822 153 50206
S140		4822 156 30811
S141		4822 156 10685
S142		4822 156 10691
S143		4822 156 10687
S144		4822 156 10689
S150		4822 156 10688
S154		4822 156 10686
S156		4822 157 51184
S201,S301, S302		4822 157 50968
S401		4822 156 50026

-C-		
C100	Varco	4822 125 50134
C141,C146	1,8-2,2 p	4822 125 50045
XR151	468 kHz	4822 242 70275
XR152,XR153	10,7 MHz	4822 242 70249
Tub.cap	15p-50 V	4822 122 31812
Tub.cap	56p-50 V	4822 122 31813
Tub.cap	68p-50 V	4822 122 31814
Tub.cap	47p-50 V	4822 122 10181
Tub.cap	100p-50 V	4822 122 10183
Tub.cap	150p-50 V	4822 122 31815
Tub.cap	470p-50 V	4822 122 31435
Tub.cap	1n8-50 V	4822 122 31835
Tub.cap	2n2-50 V	4822 122 10175

-C-		
Tub.cap	680p-50 V	4822 122 31381
Tub.cap	10n-50 V	4822 122 31816
Tub.cap	22n-16 V	4822 122 10166
Tub.cap	47n-25 V	4822 122 31817
Tub.cap	100n-12 V	4822 122 10207
	3300 μ-25 V	4822 124 40378
	340p-630 V	4822 121 50615

-R-		
R190,441 R491	(10 k)	4822 100 10035
R225/275 R228/278		4822 102 10176
R230/280		4822 100 10571
R236		4822 100 20077
R237		4822 100 20076
R306/356		4822 102 10187
R307,440,490 R820,821	(22 k)	4822 100 10051
R341/391 +SK10		4822 101 40104
R342/392		4822 100 20098
R804,810	(47 k)	4822 100 10079
R407	(100 R)	4822 100 10075
R514/564		4822 100 20097
R712/713		4822 105 10488

-SK-	
SK101÷104	4822 276 40287
SK-8	4822 276 10897
SK-9	4822 273 10095
SK301÷303	4822 276 30296
SK304	4822 273 30286
SK305÷306÷308	4822 276 50295
SK309	4822 276 11053

-SK-	
SK401	4822 277 20838
SK501	4822 276 11061
SK901,902,903 SK904,905,906	4822 277 30683

-Miscellaneous-		
BU101		4822 267 30384
BU4÷11	(socket bar)	4822 267 50349
BU301		4822 267 30346
BU501,BU502		4822 267 20222
BU601		4822 267 30461
F601	T2A	4822 253 30025
LS1,LS101		4822 240 50179
LS2,LS102		4822 280 10135
Scale		4822 333 50611
T1		4822 146 20772
M1A,M1B		4822 361 20352
M2A,M2B		4822 361 20197
M3A,M3B		4822 361 20198
Screw	2.9x38	4822 502 30235

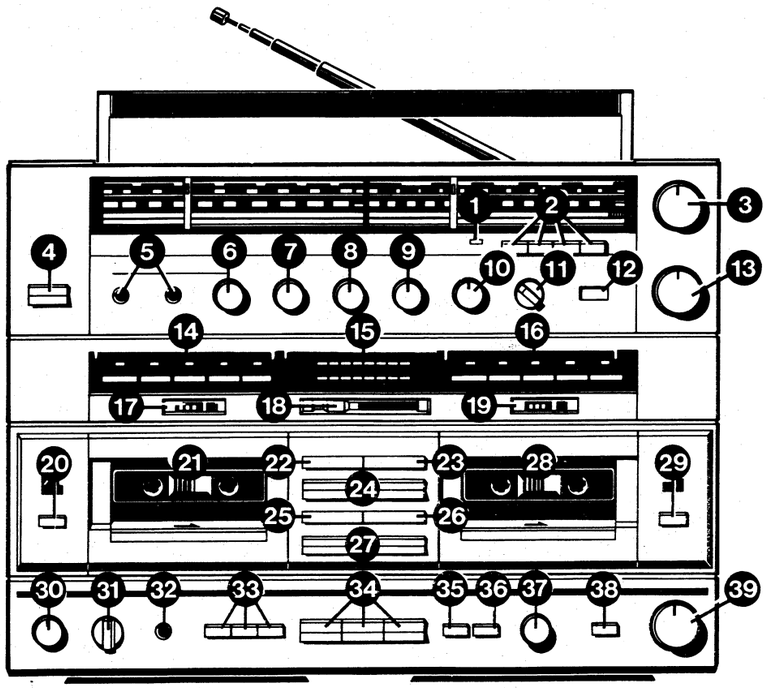
Stereo radio recorder D8734/00/02/05

WR01 onwards

Service
Service
Service

Supplement

Service Manual



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RECORD DIAGRAM

ITEM	CD
C302	J04
C303	J02
C304	J02
C306	J02
C307	K02
C308	D01
C309	D01
C310	D02
C311	K02
C312	K02
C313	K02
C314	K02
C315	L02
C317	H03
C318	H04
C320	I04
C321	I04
C322	I04
C331	I01
C353	J07
C354	J07
C356	J07
C357	K07
C358	D08
C359	D07
C361	K07
C362	K07
C363	K07
C364	K07
C365	L07
C367	H05
C368	H05
C370	I05
C371	I05
C372	I05
C380	I08
C381	I08
C401	B02
C402	C02
C403	C01
C407	C02
C408	C02
C409	D01
C411	D04
C413	A03
C414	B03
C415	B03
C416	B03
C417	C03
C418	C03
C420	B03
C421	B04
C422	D03
C424	E04
C425	H02
C426	H02
C427	E04
C428	C05
C429	B04
C430	B05
C431	C05
C432	C04
C433	A05
C434	A05
C435	B05
C436	A04
C438	H02
C439	B02
C440	C03
C451	B07
C452	C07
C457	C07
C458	C08
C459	D07
C463	A06
C464	B06
C465	B06
C466	B06
C467	C06
C468	C06
C470	B06
C471	B06
C472	D06
C475	H07
C476	H07
C487	A08
C488	H07
C489	B07
C490	C05
C734	A01
C750	N03
C751	N08
C752	P04
D302	K04
D303	M04
D306	M04
D352	K04
D401	C02
D402	C02
D403	B03
D404	C04
D405	D04
D451	C07
D452	C08
D453	B06
D454	C06
D760	P01
D766	N01
D772	P06
D786	N06
R300	J03
R301	F02
R302	F02
R303	F02
R304	F02
R305	H03
R306	H03
R307	J04
R308	K04
R309	J03
R310	J03
R311	I02
R312	J02
R313	J02
R316	J02
R317	K02
R318	K01
R319	K02
R320	J02
R321	D01
R322	D01
R323	L02
R324	L02
R325	L02
R326	M04
R327	M04
R328	L04
R329	L07
R330	C05
R331	C05
R332	D02
R333	D02
R334	G03
R335	G04
R336	G03
R337	G04
R338	G04
R339	G03
R340	F02
R341	J01
R341	I02
R342	H04
R344	H03
R345	H04
R346	I04
R347	I04
R348	I04
R348	H04
R349	I04
R350	J06
R351	F07
R352	F06
R355	H06
R356	H06
R358	K04
R359	J06
R360	J05
R361	I07
R362	J07
R363	J07
R364	J07
R366	J07
R367	K07
R368	K07
R369	K07
R370	J07
R371	D08
R372	D08
R373	L07
R374	L07
R375	L07
R384	G05
R385	G04
R386	G05
R387	G05
R388	G04
R389	G05
R390	F06
R391	I06
R392	H04
R394	H04
R395	H05
R396	I05
R397	I05
R398	H05
R399	I04
R402	B02
R403	C01
R405	C01
R406	C02
R407	C02
R408	C01
R409	C01
R411	C02
R412	C02
R413	C02
R414	D01
R415	E02
R416	D04
R419	B03
R420	B03
R422	B02
R423	B03
R424	B04
R425	A03
R426	B03
R427	C02
R428	C03
R429	C03
R430	B03
R431	B04
R432	D03
R433	E03
R434	E04
R435	H02
R436	H01
R437	H02
R438	I01
R439	A02
R440	B01
R441	A01
R444	C04
R444	B04
R445	C05
R452	B07
R453	C07
R455	C07
R456	C07
R457	C08
R458	C07
R459	C07
R461	C07
R462	C07
R463	C08
R464	D07
R465	E07
R466	E04
R467	E04
R469	B06
R470	B05
R472	B05
R473	B06
R474	B06
R475	A06
R476	B05
R477	C05
R478	C06
R479	C06
R480	B06
R481	B06
R482	D06
R483	E06
R485	H07
R486	H07
R487	H07
R488	I08
R489	A08
R490	B08
R491	A08
R710	E02
R711	F02
R712	F02
R713	F07
R714	E07
R715	F07
R753	F07
R754	F07
R766	P01
R767	P01
R768	N03
R769	M03
R770	N03
R771	P07
R772	P06
R773	N08
R774	M08
R775	N08
S401	B05
BU301	I04
IC301A	I05
IC301B	I03
IC703	N01
IC704	N06
K001A	A06
K001B	A01
K002.	A05
K101A	A03
K101B	A08
TS301	I03
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TS303	J04
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TS355	K07
TS356	L07
TS401	C01
TS402	C01
TS403	D02
TS404	B03
TS405	C03
TS406	D03
TS407	H02
TS408	B04
TS409	C04
TS451	C07
TS452	C07
TS453	D07
TS454	B06
TS455	C06
TS456	D06
TS702	F02
TS703	F07

DocumentationTechnique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

Subject to modification

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Printed in The Netherlands

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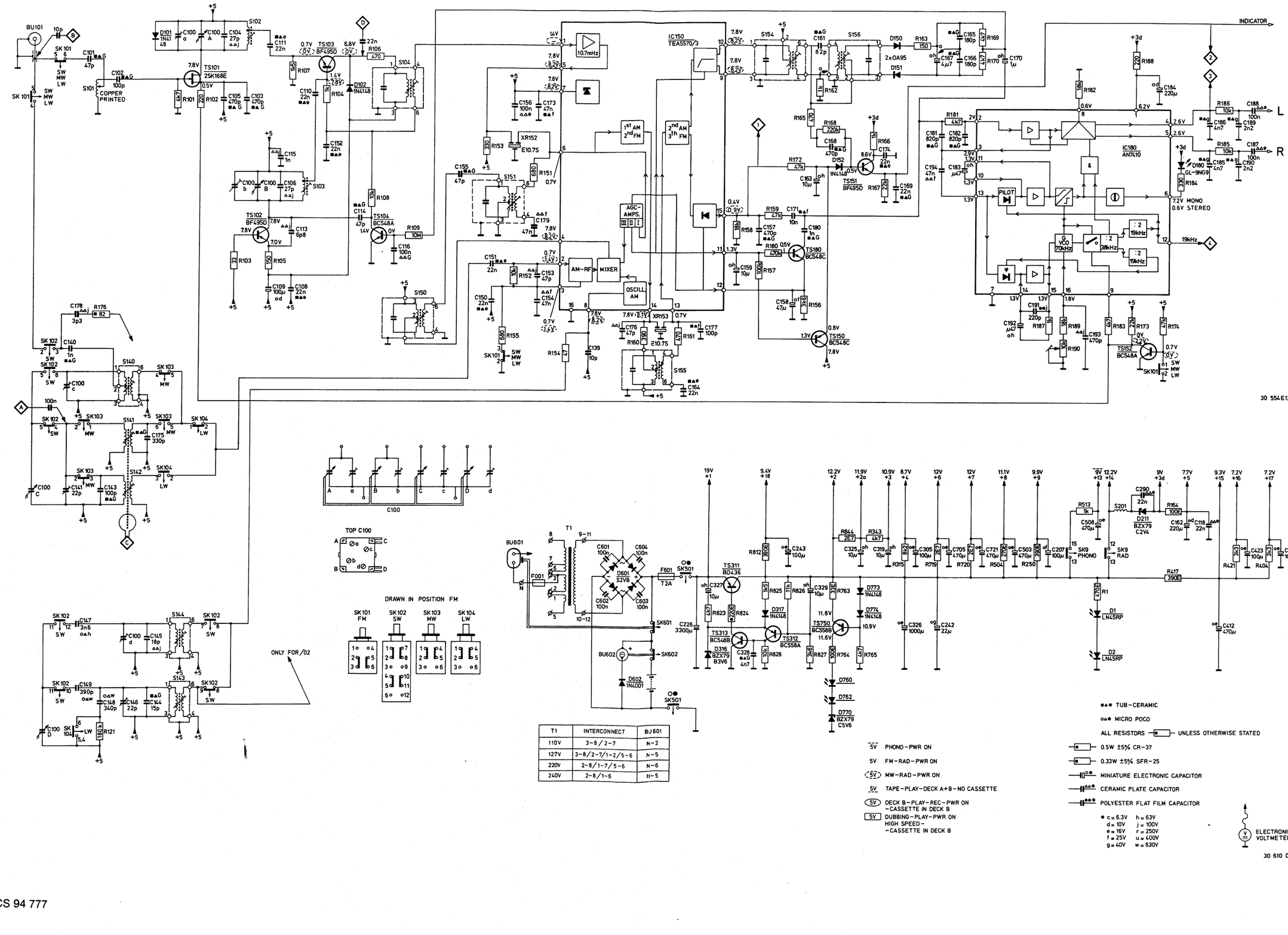
PHILIPS

R	101 102 103 105 107 104 106 108 109 151÷153 155 171 154 160 161 156÷159 180 172 162 165÷168 163 181 169 170 187 189 190 182 183 188 173 174 184 186 185	R
C	101 102 103÷106 108÷111 113÷116 152 150 151 153÷156 173 179 139 176 164 177 157÷160 171 161 163 180 158 174 169 165÷167 194 181÷183 170 191÷193 184 185÷190 140÷149 175	C
MISC.	BU101 S101 D101 TS101 S102 TS102 S103 TS103 D102 TS104 S104 S150 S151 XR152 S155 XR153 IC150 S154 TS180 TS150 D152 S156 TS151 D150 D151 IC180 TS152 D180 S140÷S144	MISC.



CS 94 777

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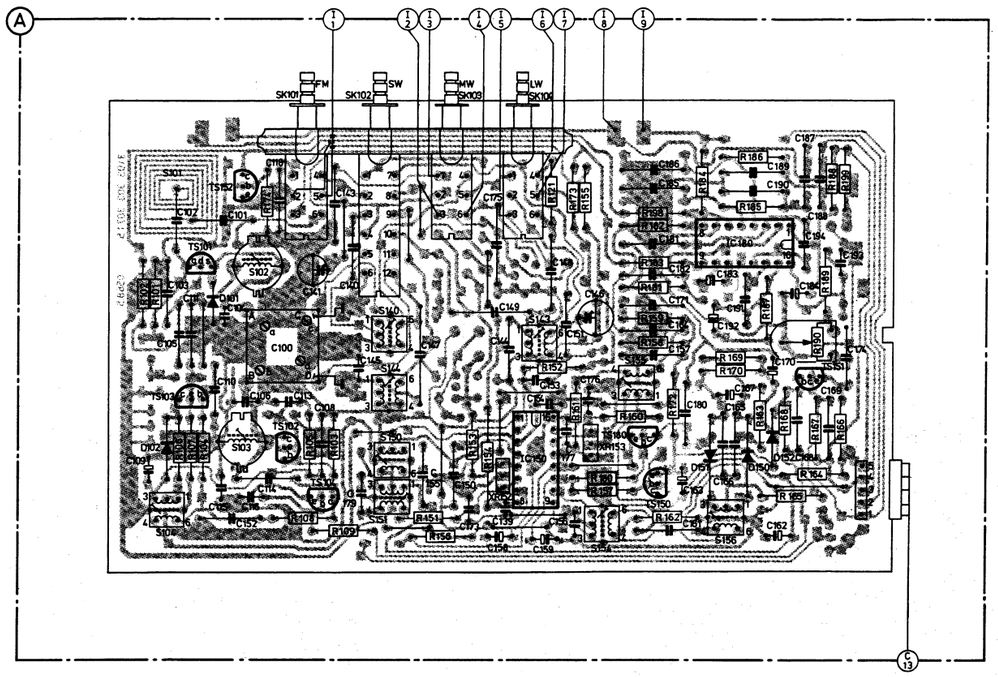
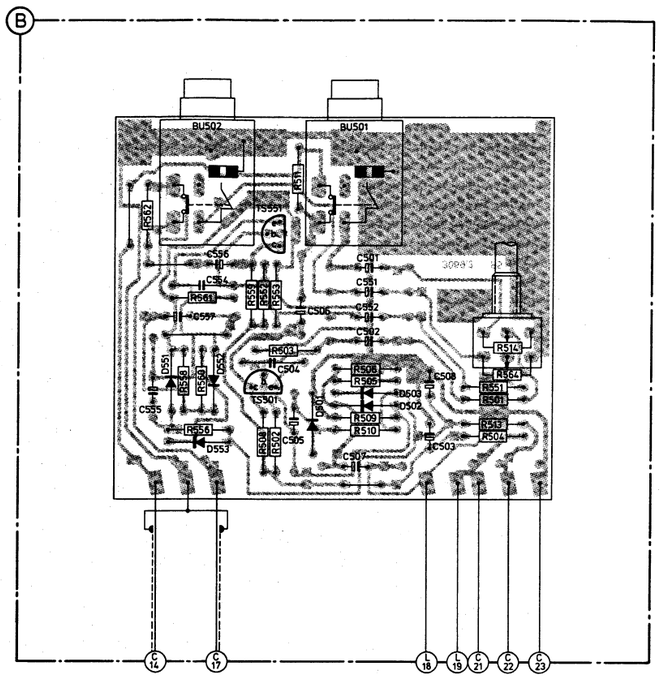
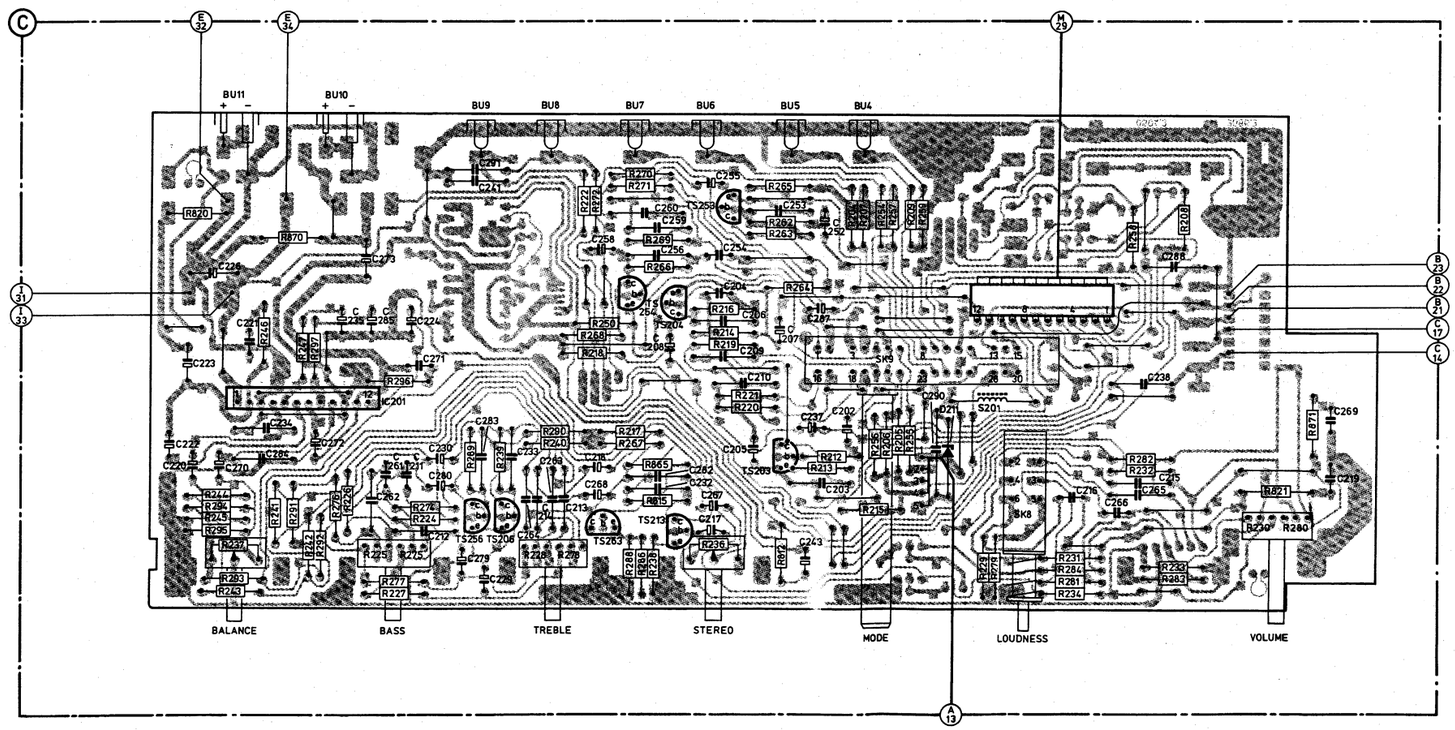
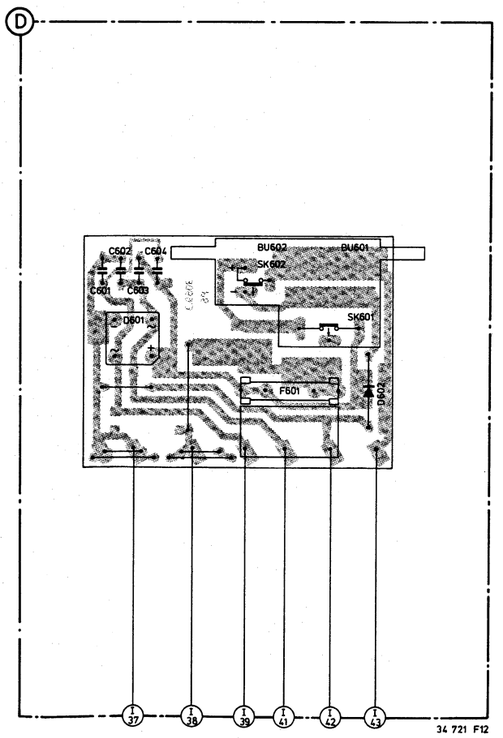
	296 250.270.267.217.222.272.268.271.269.266 812 262÷265 204.207.254.257.209.219 279.229.258.208 233.283 280.230	
	820.243÷247.237.291÷295.241.870.242.297 224÷227.275÷277.289.239.240.286.274.228.278.290.288.238.815.865.218.212÷216.219.221.220.236 256.206.205.255 231.281.284.234 282.232 821 871	
C	109.101÷106.111.110.113÷116.152.118.100.141.108.143.140.145.155.146÷154.173.175.144.139.176.156.158 161 159 180÷186.162÷171.157.187÷194.174 554÷557 504÷506 501.551.552.502.507.508.503	C
	226.220÷223 271÷273.224 231.241.283÷285 268 282.232 256.258 254 255 253.252.287 288.216.266.215.265 601÷604	
	234 235 270.211.212.261.262 229.279.230.220 283.263.214.233.213 218.260.259 264.267.217 208÷210.204÷207 243 202.237.203 290 238 269.219	
MISC.	D102.S101÷S104.TS101÷103.D101.TS152.TS104.SK101÷104.S140.S144.S150 S151 XR152.S143.IC150.XR153.S154÷156.TS180.TS150.D150÷152.IC180 TS151 BU502 D551÷D553.TS551.TS501.D501÷D503.BU501	MISC.
	BU11 IC201 BU10 TS206.TS256.BU9 BU8.TS263.TS213 BU7 TS254.TS204.BU6 BU5.TS253.TS203.BU4 SK9 D211.S201 SK8 TS257.TS207 D601 BU502.SK602.F601.BU601.SK601.D602	









34 721 F12

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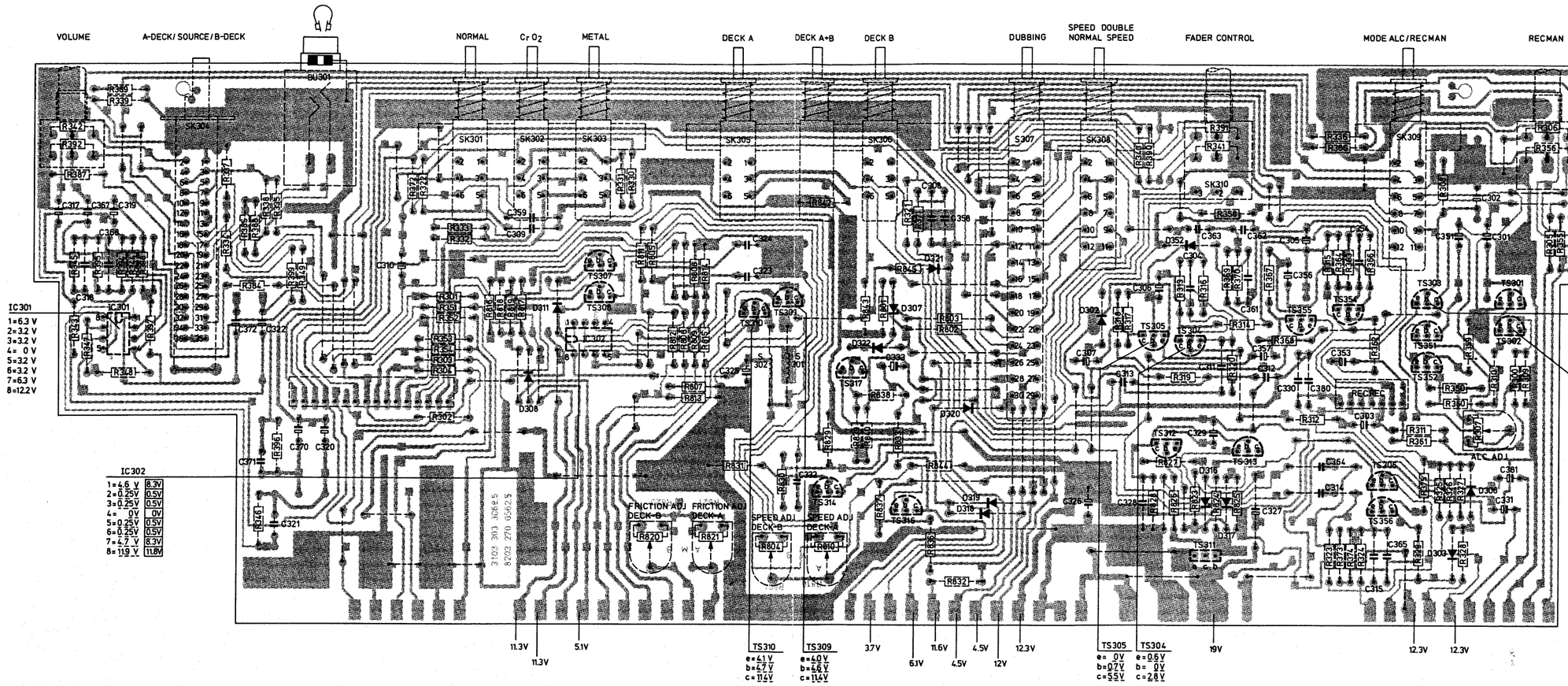
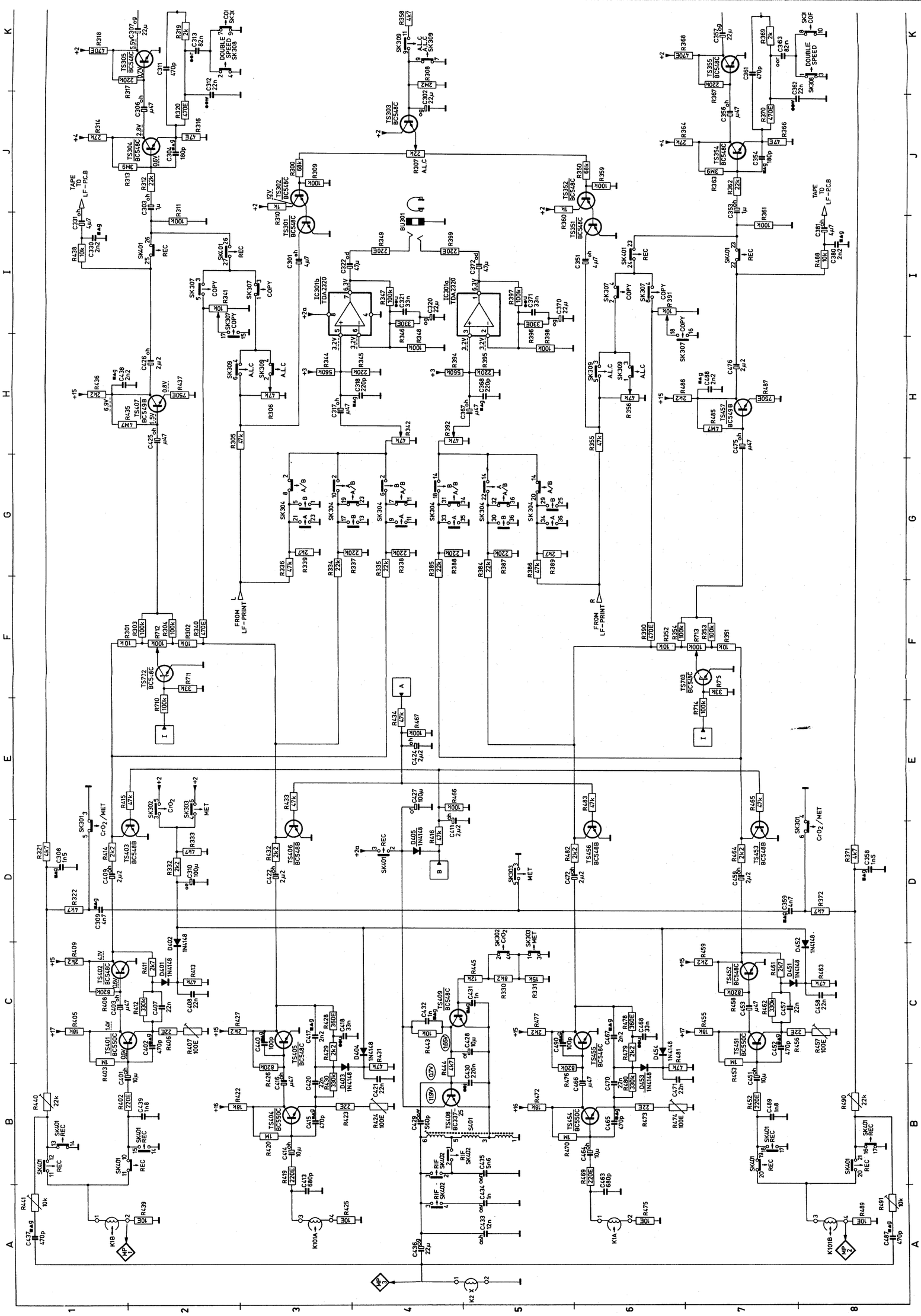
	392. 395. 394. 398. 397	346. 384. 396
C	317. 318. 367. 368. 319	372. 322
		371. 321. 370. 320
MISC.	IC 301	SK 304
		BU 301

372. 322. 332. 333	819÷816	331. 330	809÷805	842	843. 801. 321. 371	802. 803														
354÷351. 304. 301			815÷811	820. 821. 804. 831÷829. 810		840÷836	833	844. 832. 845												
310	309. 359			323. 324				308. 358												
				325		332		333												
SK 301	SK 302. SK 303. TS 308. TS 307			SK 305. TS 310. TS 309		D 322. D 307. SK 306		D 322		SK 307	SK 308									
	D 308. D 311. IC 302			S 302. S 301		TS 314. TS 317. TS 316		D 318÷D 321			D 302									

340. 390	341. 313	320÷316. 358. 314. 391. 315. 386. 336. 370÷362																		308	305. 356. 306. 355
828÷823																				312. 373. 374. 375. 311. 350. 329÷323. 361÷359. 307. 310. 300. 309
306. 304. 363÷361. 357. 330. 380. 350. 305. 353. 354																				351. 302. 301
326. 307	328	329. 313÷311. 327		314. 364		303. 315. 365														331. 381
		TS 305. TS 304. D 352. SK 310				TS 355. TS 354		SK 309. TS 352. TS 351												303÷TS 301
		D 316. D 317. 313÷TS 311				TS 356. TS 306				D 303. D 306										



30288 E13/B


TAPE TO LF-PC.B
FROM LF-PRINT
REC
COPY
DOUBLE SPEED
A/B
A.L.C
MET
CrO2
TS722 BC548C
TS723 BC548C
TS301 BC548C
TS302 BC548C
TS303 BC548C
TS304 BC548C
TS305 BC548C
TS306 BC548C
TS351 BC548C
TS352 BC548C
TS354 BC548C
TS355 BC548C
TS356 BC548C
TS401 BC550C
TS402 BC548C
TS403 BC548B
TS404 BC550C
TS405 BC548C
TS406 BC548B
TS407 BC548B
TS408 BC337-25
TS409 BC548C
TS451 BC550C
TS452 BC548C
TS453 BC548B
TS454 BC550C
TS455 BC548C
TS456 BC548B
TS457 BC548B
IC301a TDA2320
IC301b TDA2320
BU301
D401 1N4148
D402 1N4148
D403 1N4148
D404 1N4148
D405 1N4148
D451 1N4148
D452 1N4148
D453 1N4148
D454 1N4148
K1A
K1B
K2 X
K101A
K101B
MP1
MP2
MP3

E F G H I J K L M N O P

1 2 3 4 5 6 7 8

TS702 BC548C · TS703 BC548C · TS407 BC549B · TS457 BC549B · TS301 BC548C · TS302 BC548C · TS303 BC548C · TS304 BC548C · TS305 BC548C · TS306 BC548C · TS351 BC548C · TS352 BC548C · TS354 BC548C · TS355 BC548C · TS356 BC548C

IC301a TDA2320 · IC301b TDA2320

IC703 IR2E02 · IC704 IR2E02

D766 · D760 · D786 · D772

D302 1N4148 · D352 1N4148 · D306 OA95 · D303 1N4148

BU301

SK304 DECK-B SOURCE DECK-A

SK401 PLAY REC

NORMAL CrO_2 METAL SK 301 SK 303 OFF ON

DECK-A DECK-B SK305 SK306 OFF ON

SK308 SK309 NORMAL DOUBLE SPEED MAN ALC

DUBBING SK307 OFF COPY

THE DIAGRAM IS DRAWN IN POSITION;
SOURCE, PLAY, NORMAL, MAN., DUBB.OFF

30 355 F12

CS 94 780

CS 94 781

F G H I J K L M N O

1 2 3 4 5 6 7 8

+6 D791 BAW27

TORQUE A R821 22k SK307 15 COPY 13 R845 D321 BZV46/C1V5

TORQUE B R820 22k SK308 10 DOUBLE SPEED 8

+7 D790 BAW27

12V 20 +SUPPLY VOLTAGE

22 FRICTION 1.7V

7 WIND SWITCH 4.4V

9 REWIND SWITCH 4.4V

5 STOP SWITCH 4.4V C729 1n ▪▲G

8 PLAY SWITCH 4.4V

6 PAUSE SWITCH 4.4V C730 1n ▪▲G

12 REC. LOCK 5.7V

10 REC. SWITCH 5.7V ▪▲G C731 1n

13 CONTROL DISC 0V C723 100n ▵▵C

14 CONTROL DISC 0V C724 100n ▵▵C

15 CONTROL DISC 3.7V C725 100n ▵▵C

25 GROUND

26 AUT. STOP TIME 0V oh C720 2µ2

17 BRAKE 4.3V ••r C722 100n

•• j C711 10n

R902 4k7 WIND SK901

R901 4k7 REW SK905

PLAY SK904

PAUSE SK906

SK307 29 27 COPY

D705 1N4148 D737 1N4148 STOP SK903

D319 1N4148 D318 1N4148

D720 1N4148 D721 1N4148

R747 4k7 D738 1N4148 R746 4k7

D723 1N4148 D722 1N4148

R748 4k7 D736 1N4148 D735 1N4148 SK 701B REC INH

R749 4k7 SK902 REC

D714 1N4148 D715 1N4148 D713 1N4148 D716 1N4148 D739 1N4148

SK310 2 3 PAUSE

R724 10k C715 oh 1µ R725 47k

R722 10k C714 oh 1µ R723 47k

D724 1N4148 D725 1N4148

D726 L417YP R832 470E D320 1N4148 30 COPY 28 SK307 26 COPY 28 R836 47k R829 68k R830 68k TS314 BC548C C332 10n ▪▲g R831 47k

TS316 BC558B +2a R837 22k +2a R833 10k C333 oh 4µ7 R838 4k7 R839 1k8 TS317 BC548B R840 10k

R730 1k D717 BZX79 C5V6 R733 2k2

R734 100k R735 100k R736 4k7 TS705 BC548C

D744 1N4148 R750 47k

TS704 BC548C R731 47k R732 47k •• j C732 100n

CONTROL DISC

IC702 U471B

RECORDING LED 28 D730 LN217RP R742 2k7

PLAY LED 2 9.3V D732 LN217RP R744 2k2

PAUSE LED 4 11.3V R745 2k2 D734 LN217RP

WIND LED 3 10.6V D733 LN217RP +2

REWIND LED 1 10.6V D731 LN217RR +2

REMOTE 11 3.7V SK305 3 5 DECK A R842 22k +2

MUTE 16 0V B

CUE 21 0V R728 100k

SERVO MOTOR 19 0.7V R729 2E2 D742 1N4001 +7 M3B SERVO MOTOR B

SERVO MOTOR 18 0.7V D743 1N4001 +7

WIND MOTOR 23 2.7V od C718 47µ od C717 47µ M2B WIND MOTOR B

WIND MOTOR 24 0V R741 18E •• r C719 100n

AUT. STOP INPUT 27 R708 47k

+2 R740 820E R739 220k TS707 BC558B TS706 BC558C R737 10k 11.6V oh C716 1µ I

12.2V 10.9V 11.6V 12.2V

D729 1N4148

SPEED B R804 47k R805 100k

+2a D311 1N4148 R817 100k TS307 BC558B R816 100k D308 1N4148 12.2V TS708 BC558B R743 820E 11.3V

+2a 11.9V IC302a NE532V 0.5V 0.25V 0.5V 0.25V 8.3V 4.6V

+2a S301 1mH 11.5V TS309 BC337-25 4.0V

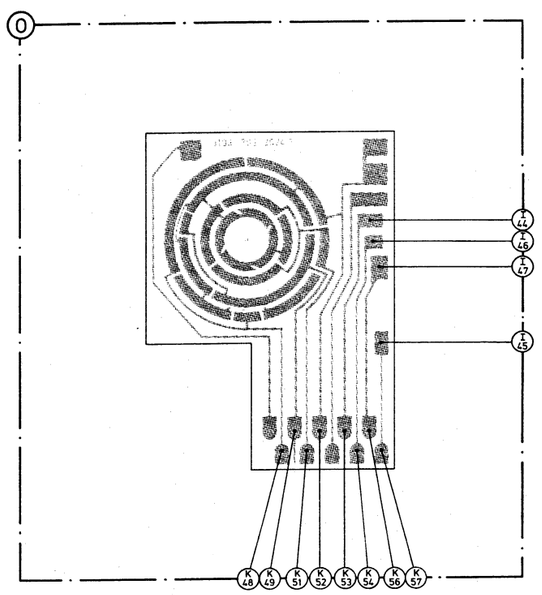
R809 100k R808 6k8 R806 8k2 R807 1E

M1B CAPSTAN MOTOR B

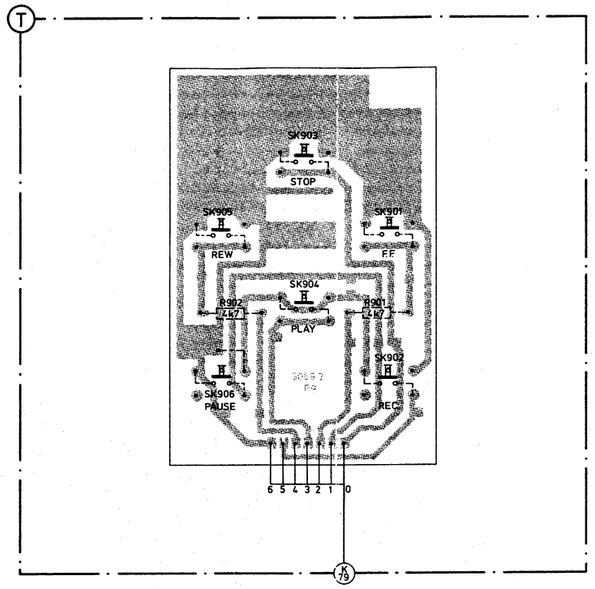
oh C323 µ47

30 356 F12/8

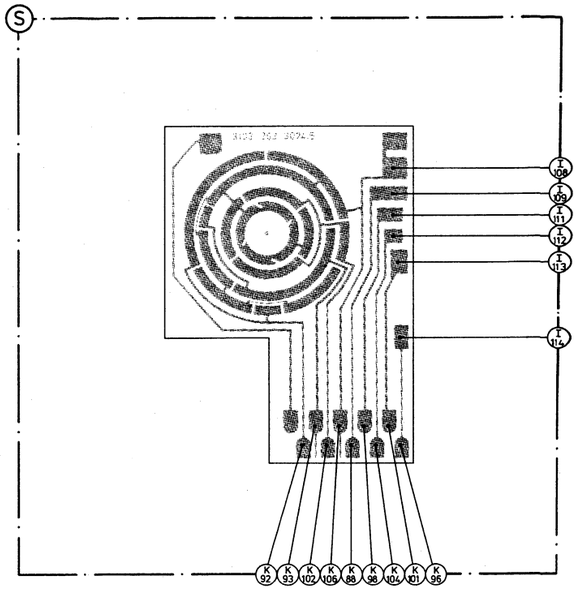
R	727 726 701 707 719 702 706 738 704 739 740 705 703 737 716 ÷ 718 764 763 765 769 713÷715 768 770 749 766 767 750 710--712 735 734 732 731 771 ÷ 775 733 736 746 747 744 723 743 722 725 745 730 748 724 720 742 729 728 741 708	R
C	706 ÷ 709 704 710 705 701 703 712 713 716 726 ÷ 728 750 753 752 751 732 714 730 724 723 731 715 729 725 720 717 ÷ 719 722 721 711	C
MISC.	IC701 D791 D741 D740 D701 D727 D728 D702 TS706 TS707 TS701 D703 D704 D726 D706 D705 TS703 TS750 D772 ÷ D774 D737 D770 D786 D760 D766 IC703 IC704 TS704 TS705 TS702 D731 D720 ÷ D725 D739 D729 D738 D732 D713÷D716 TS708 D744 D733÷D736 D730 IC702 D790 D742 D743	MISC.

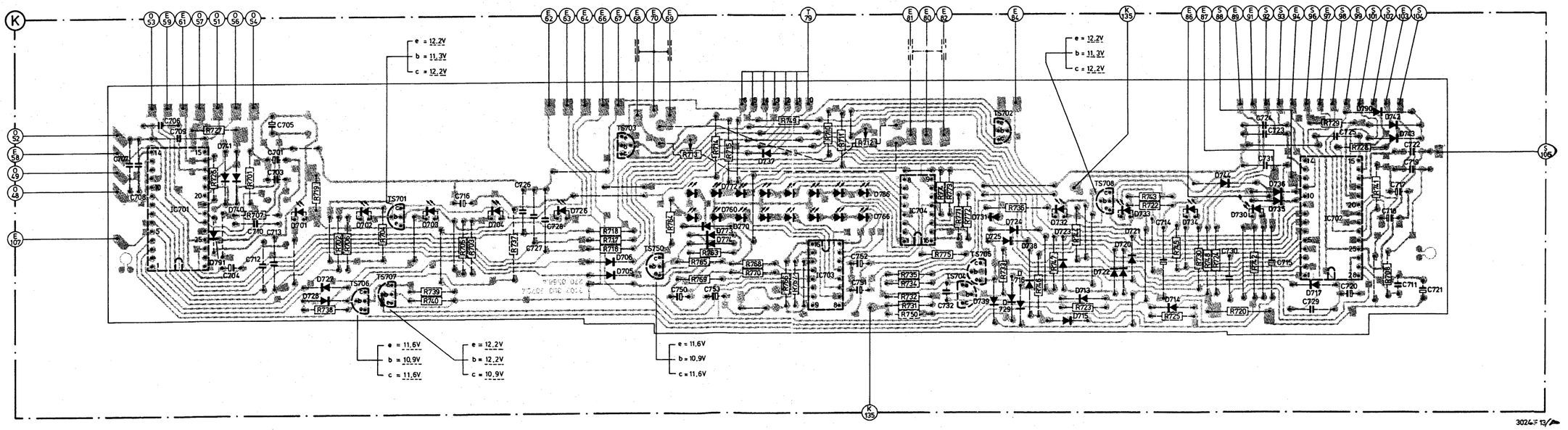


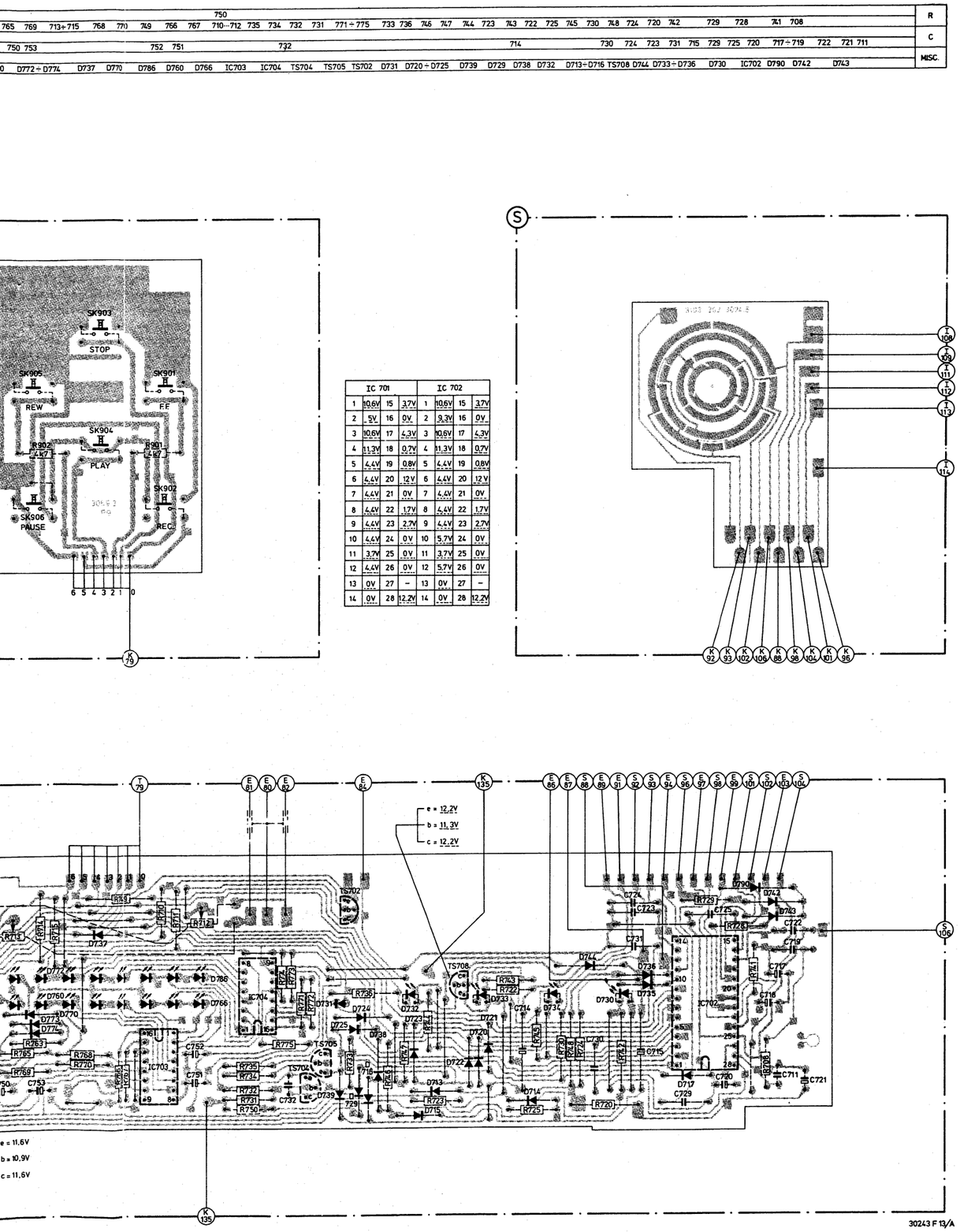
IC 703-704			
1	7,7V	9	–
2	9,2V	10	12,2V
3	10,7V	11	–
4	9,2V	12	–
5	10,7V	13	–
6	9,2V	14	2,7V
7	10,7V	15	0,8V
8	–	16	0,8V



IC 701				IC 702			
1	10,6V	15	3,7V	1	10,6V	15	3,7V
2	5V	16	0V	2	9,3V	16	0V
3	10,6V	17	4,3V	3	10,6V	17	4,3V
4	11,3V	18	0,7V	4	11,3V	18	0,7V
5	4,4V	19	0,8V	5	4,4V	19	0,8V
6	4,4V	20	12V	6	4,4V	20	12V
7	4,4V	21	0V	7	4,4V	21	0V
8	4,4V	22	1,7V	8	4,4V	22	1,7V
9	4,4V	23	2,7V	9	4,4V	23	2,7V
10	4,4V	24	0V	10	5,7V	24	0V
11	3,7V	25	0V	11	3,7V	25	0V
12	4,4V	26	0V	12	5,7V	26	0V
13	0V	27	–	13	0V	27	–
14	0V	28	12,2V	14	0V	28	12,2V



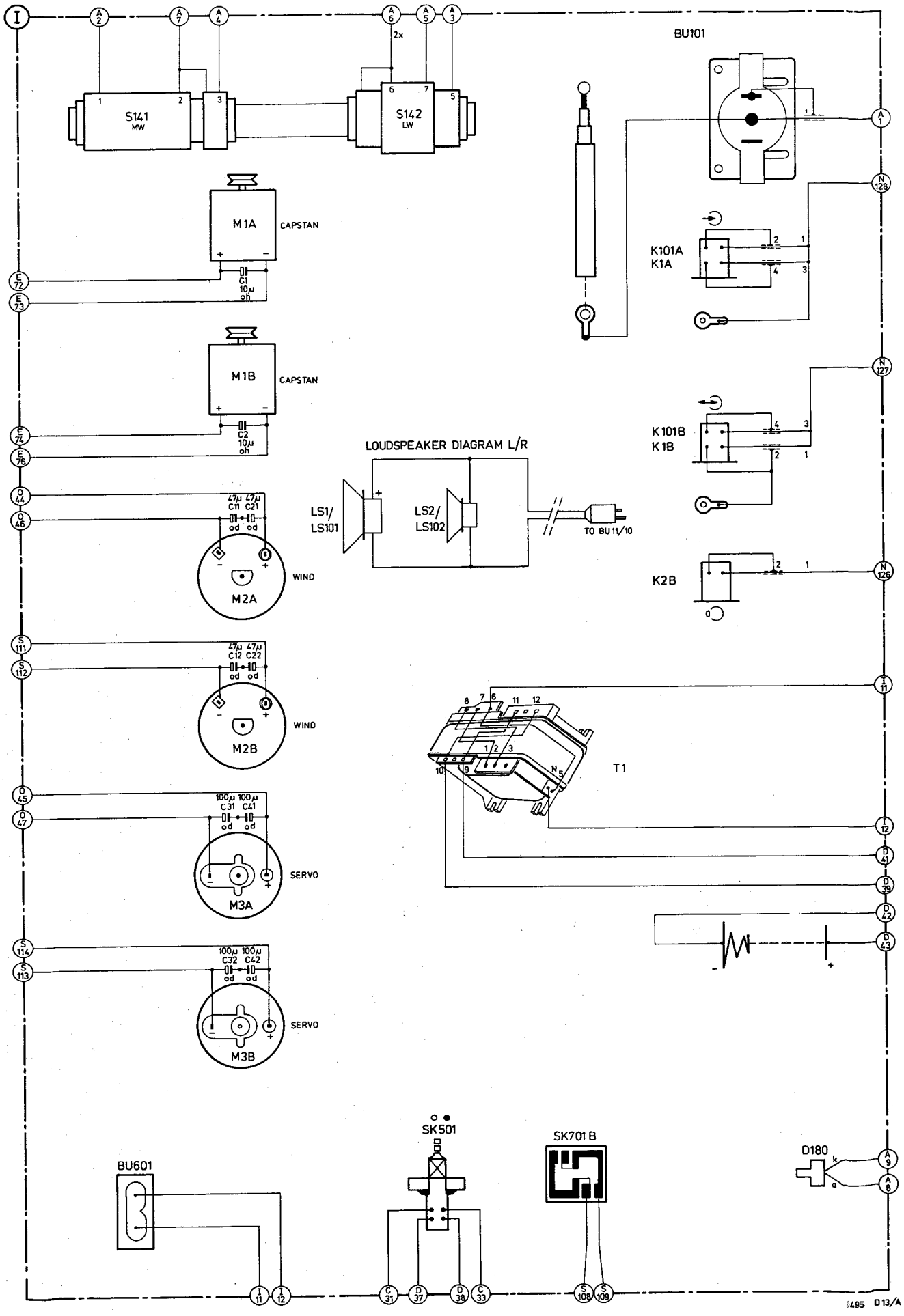




IC 701				IC 702			
1	10,6V	15	3,7V	1	10,6V	15	3,7V
2	5V	16	0V	2	9,3V	16	0V
3	10,6V	17	4,3V	3	10,6V	17	4,3V
4	11,3V	18	0,7V	4	11,3V	18	0,7V
5	4,4V	19	0,8V	5	4,4V	19	0,8V
6	4,4V	20	12V	6	4,4V	20	12V
7	4,4V	21	0V	7	4,4V	21	0V
8	4,4V	22	1,7V	8	4,4V	22	1,7V
9	4,4V	23	2,7V	9	4,4V	23	2,7V
10	4,4V	24	0V	10	5,7V	24	0V
11	3,7V	25	0V	11	3,7V	25	0V
12	4,4V	26	0V	12	5,7V	26	0V
13	0V	27	–	13	0V	27	–
14	0V	28	12,2V	14	0V	28	12,2V

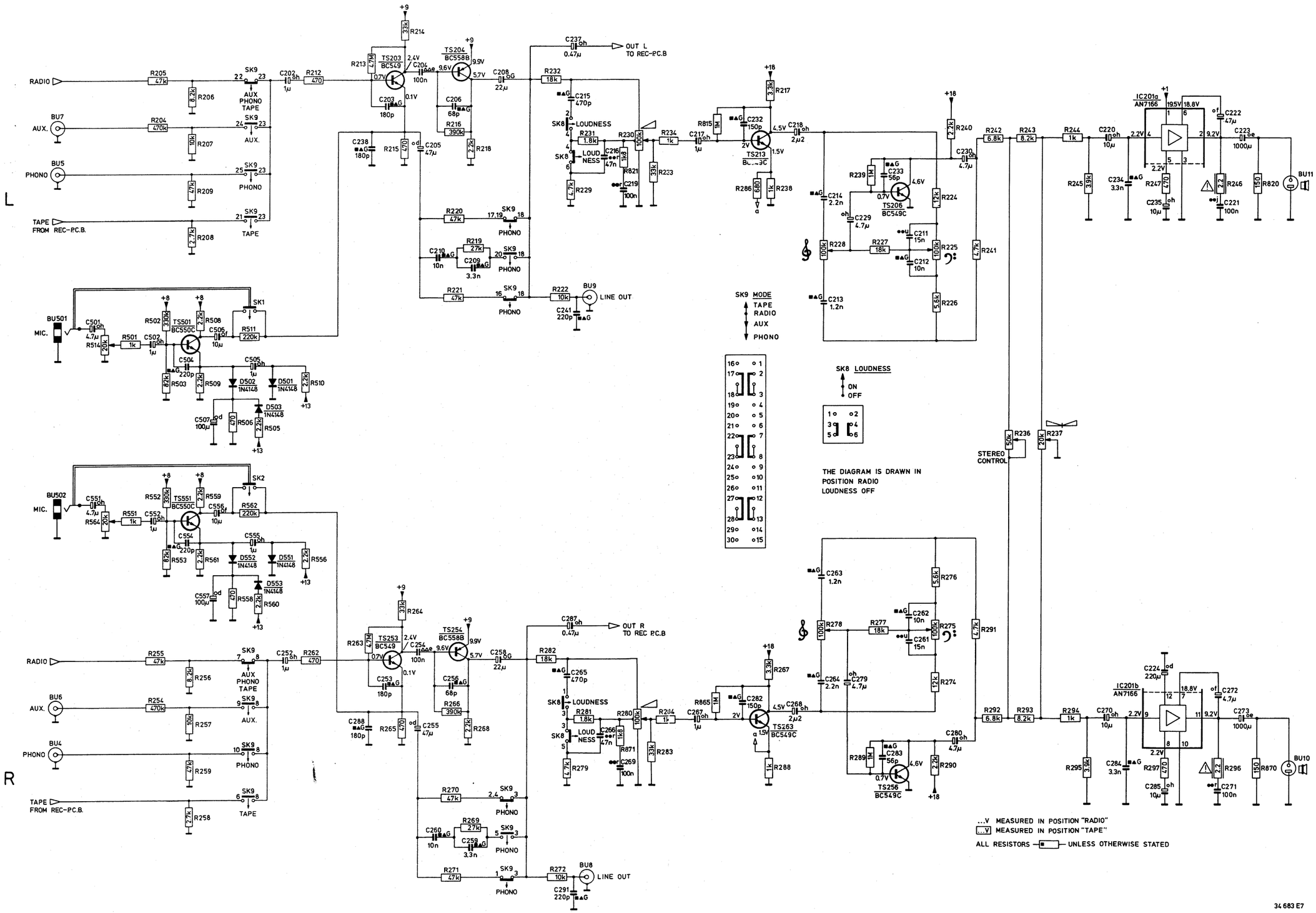
CONTROL DIAGRAM

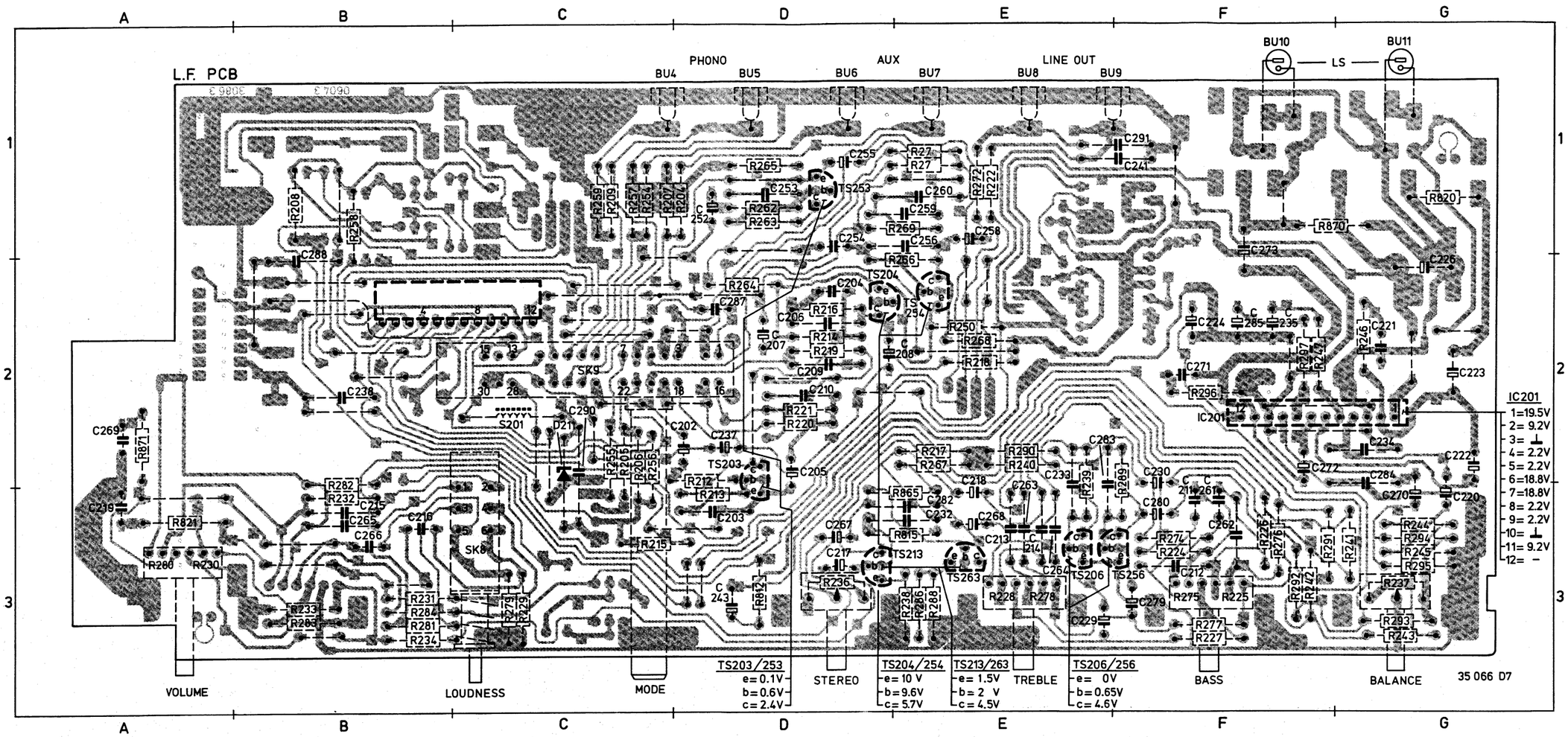
ITEM	CD						
M1A	A04	D703	C04	R724	H06	R820	H02
M1B	004	D704	C03	R725	H06	R821	G02
M2A	C07	D705	G04	R726	C05	R822	G02
M2B	M07	D706	E05	R727	C06	R829	G05
M3A	C06	D713	H07	R728	M05	R830	G06
M3B	M06	D714	H06	R729	M06	R831	G06
C323	N05	D715	I06	R730	F07	R832	F05
C324	B04	D716	I07	R731	F08	R833	F06
C332	G06	D717	F07	R732	F08	R836	F06
C333	G06	D720	G03	R732	M02	R837	F06
C701	C07	D721	G03	R733	F07	R838	F06
C702	C07	D721	H03	R734	G07	R839	F07
C703	C07	D722	J05	R735	G08	R840	G07
C704	D08	D723	J05	R736	G07	R842	C04
C706	D08	D724	I07	R737	N02	R843	M04
C707	E07	D725	I07	R738	D01	R901	H03
C708	E07	D726	F05	R739	M02	R902	H02
C709	E07	D727	C01	R740	M02	S301	003
C712	E05	D728	C01	R741	M07	S302	A03
C713	E04	D729	N02	R743	M03	IC302A	003
C714	H07	D730	M02	R744	M03	IC302B	A03
C715	H06	D731	M04	R745	M03	IC701	D04
C716	N02	D732	M03	R746	J05	IC702	L05
C717	M07	D733	M04	R747	J04	TS307	N03
C718	M07	D734	M03	R748	J05	TS308	B03
C719	M07	D735	J05	R749	I06	TS309	004
C720	L08	D736	J05	R801	A01	TS310	A03
C722	L08	D737	G04	R802	A01	TS314	G06
C723	K07	D738	I05	R803	A02	TS316	F06
C724	K07	D739	H07	R804	N03	TS317	G07
C725	K07	D740	C06	R805	N03	TS701	B03
C726	E03	D741	C06	R806	004	TS704	F08
C727	E05	D742	M06	R807	005	TS705	G07
C728	E02	D743	M06	R808	N04	TS706	M02
C729	K04	R701	C07	R809	004	TS707	M02
C730	K05	R702	C03	R810	B02	TS708	M03
C731	J06	R703	C03	R811	B02		
D301	M03	R704	C03	R812	A04		
D307	A01	R705	C03	R813	A04		
D311	N03	R706	B03	R814	B04		
D318	G04	R716	E02	R815	A04		
D319	G04	R717	E04	R816	M03		
D320	F05	R718	E03	R817	N03		
D701	C04	R722	H07	R818	B03		
D702	C03	R723	H07	R819	B03		


I
A2
A7
A4
A6
2x
A5
A3
S141
MW
S142
LW
BU101
A1
N128
M1A
CAPSTAN
C1
10µ
oh
E72
E73
K101A
K1A
M1B
CAPSTAN
C2
10µ
oh
E74
E76
N127
K101B
K1B
LOUDSPEAKER DIAGRAM L/R
LS1/
LS101
LS2/
LS102
TO BU11/10
O44
O46
47µ C11
47µ C21
od od
M2A
WIND
K2B
N126
S111
S112
47µ C12
47µ C22
od od
M2B
WIND
T1
I11
I12
O45
O47
100µ C31
100µ C41
od od
M3A
SERVO
D41
D39
D42
D43
S114
S113
100µ C32
100µ C42
od od
M3B
SERVO
SK501
SK701 B
D180
A9
A8
BU601
I11
I12
C31
D37
D38
C33
S108
S109
3495 D13/A

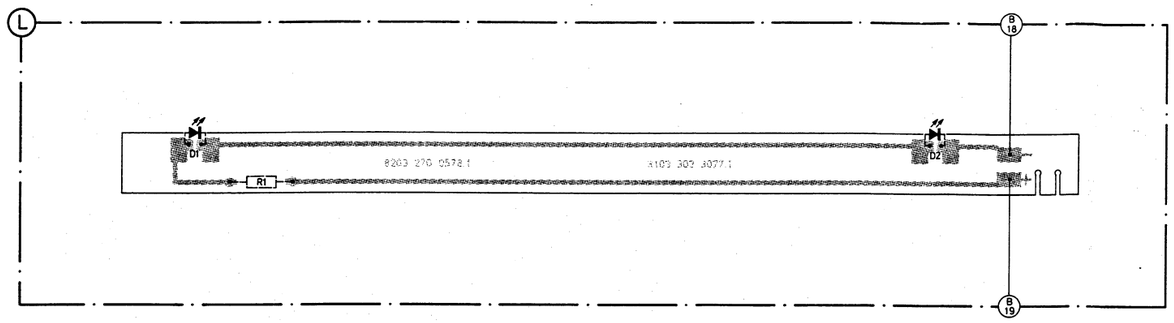
CS 94 783

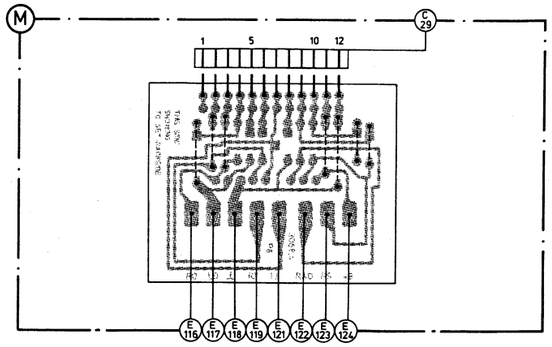
MISC.	BU7.5.501		TS501	D501···503		Mi-1	TS203	D208	TS204		BU9		TS213		TS206			IC201a			
	BU6.4.551		TS551	D551···553	D202	Mi-101	TS253		TS254		BU8		TS263		TS256			IC201b			
C	501 502		504 ... 507		202		238.203	204···206.210	209	208	237.215.241.216	219	217	232	218	214.213.229	233 211.212	230		220 234	235	221···223
	551 552		554 ... 557		252		288.253	254···256.260	259	258	287.265.291.266	269	267	282	268	264.263.279	283 261.262	280		270 284	285 224	271···273
R	514	501···503.204···209.		508.509 505.506		510.212	213	214.215	216.218.220.221.219		232.222.229.231.821.230.233.234		815	286.217.238	228	239.227	224···226.240.241.242.236.243.237.		244 245	247	246 820
	564	551···553.254···259.		558···562		556.262	263	264.265	266.268.270.271.269		282.272.279.281.871.280.283.284		865	267.288	278	289.277	274···276.290	291.292 293	294 295	297	296 870

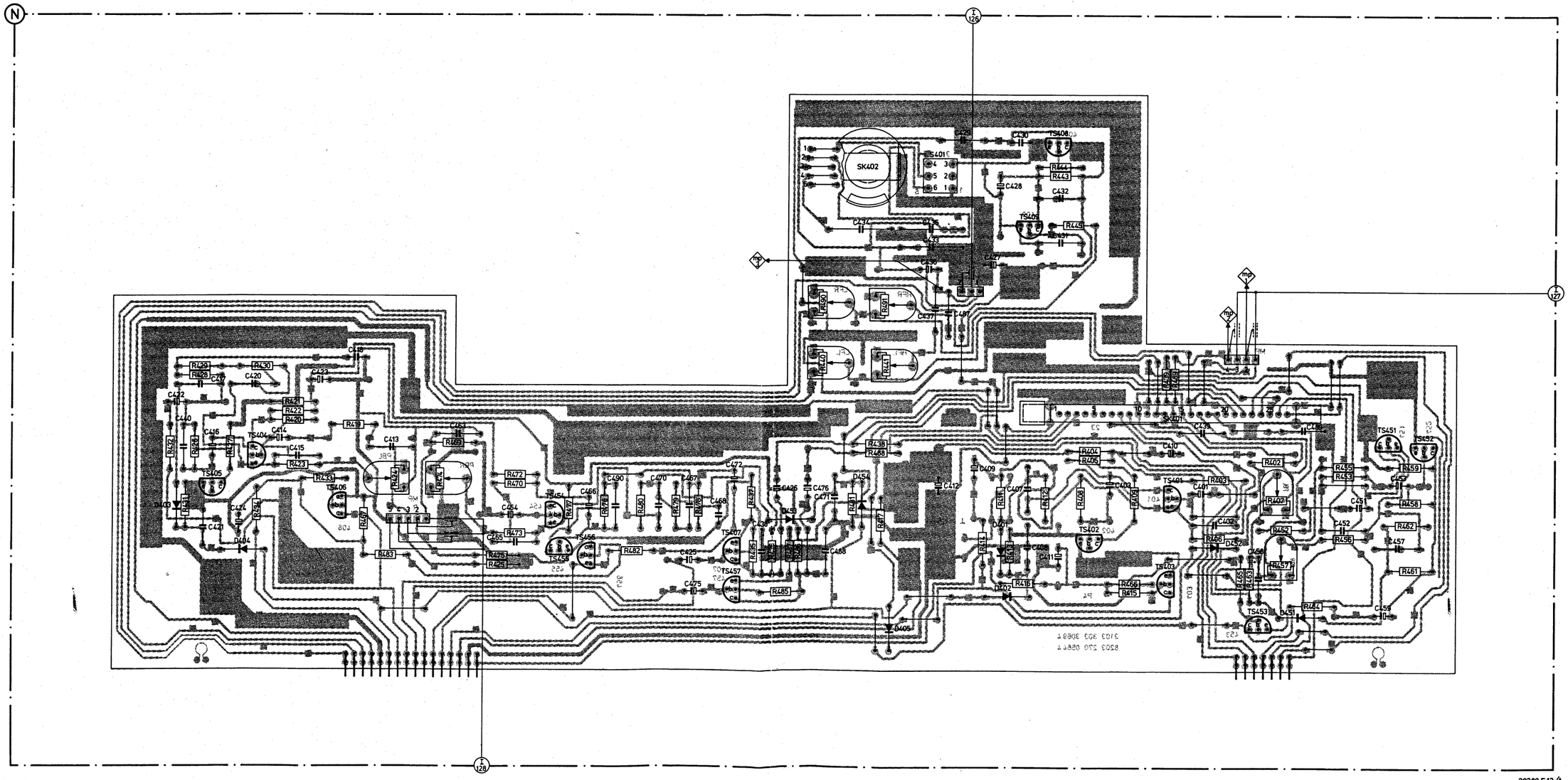



L.F. PCB
PHONO
AUX
LINE OUT
BU4
BU5
BU6
BU7
BU8
BU9
BU10
BU11
LS
VOLUME
LOUDNESS
MODE
STEREO
TREBLE
BASS
BALANCE
IC201
1=19.5V
2= 9.2V
3= ⊥
4= 2.2V
5= 2.2V
6=18.8V
7=18.8V
8= 2.2V
9= 2.2V
10= ⊥
11= 9.2V
12= –
TS203/253
e= 0.1V
b=0.6V
c=2.4V
TS204/254
e= 10 V
b=9.6V
c=5.7V
TS213/263
e= 1.5V
b= 2 V
c=4.5V
TS206/256
e= 0V
b=0.65V
c=4.6V
35 066 D7
A
B
C
D
E
F
G
1
2
3

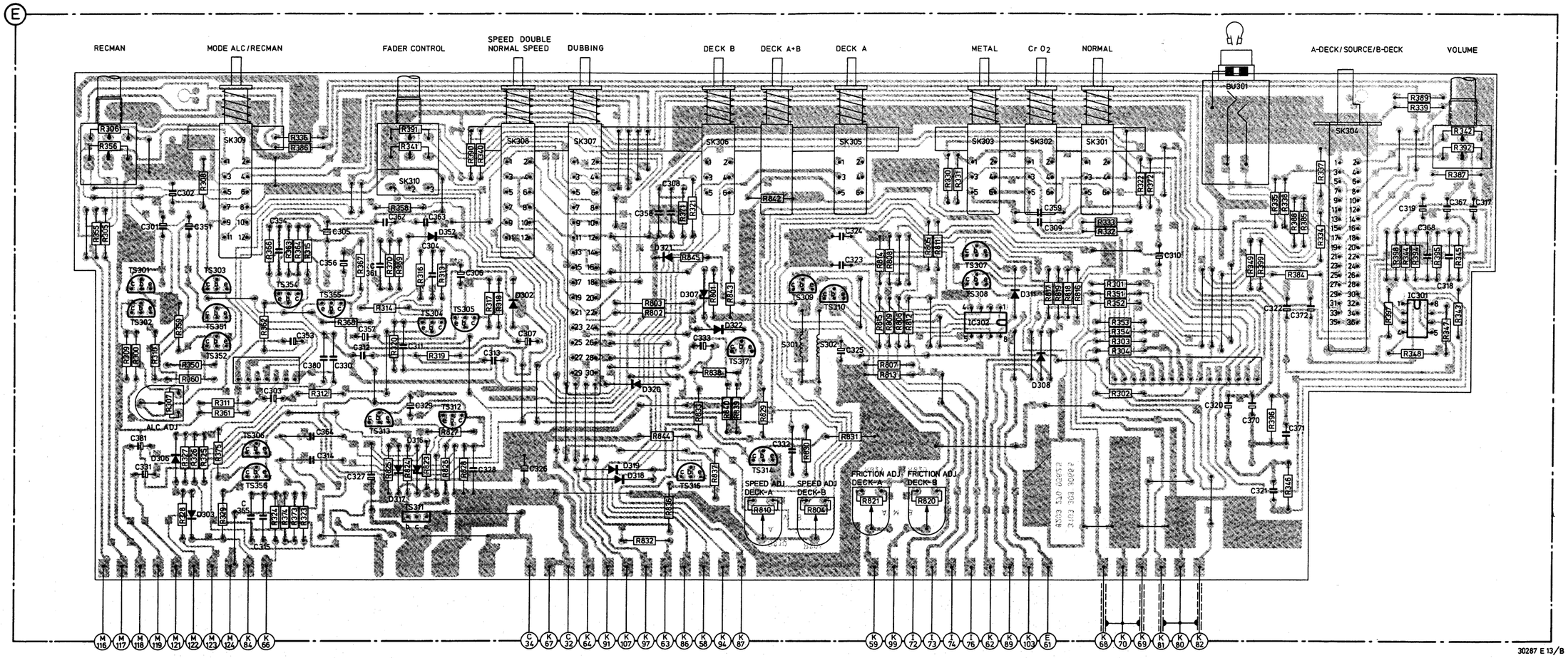
R	1 426÷432 434 419÷423 433 467 483 424 474 469 475 425 472 470 473 477 476 482 478÷480 490 440 491 441 443÷445 435÷437 485÷487 481 438 488 417 411÷414 416 404 405 408 409 466 415 439 489 403 406 463÷465 402 407 452 457 455 453 456 459 458 462 461	R
C	422 440 414÷417 421 424 420 423 467 418 413 463 464 465 466 490 470 467 425 475 468 472 438 426 476 471 488 433÷437 487 427÷432 412 407÷409 411 403 410 401 439 402 458 489 451÷453 459 457	C
MISC.	D1 D2 402 S401 TS409 TS408 D403 TS405 D404 TS404 TS406 D454÷D456 TS407 TS457 D453 D454 D405 D401 D402 TS401÷TS403 SK401 D452 TS453 D451 TS451 TS452	MISC.





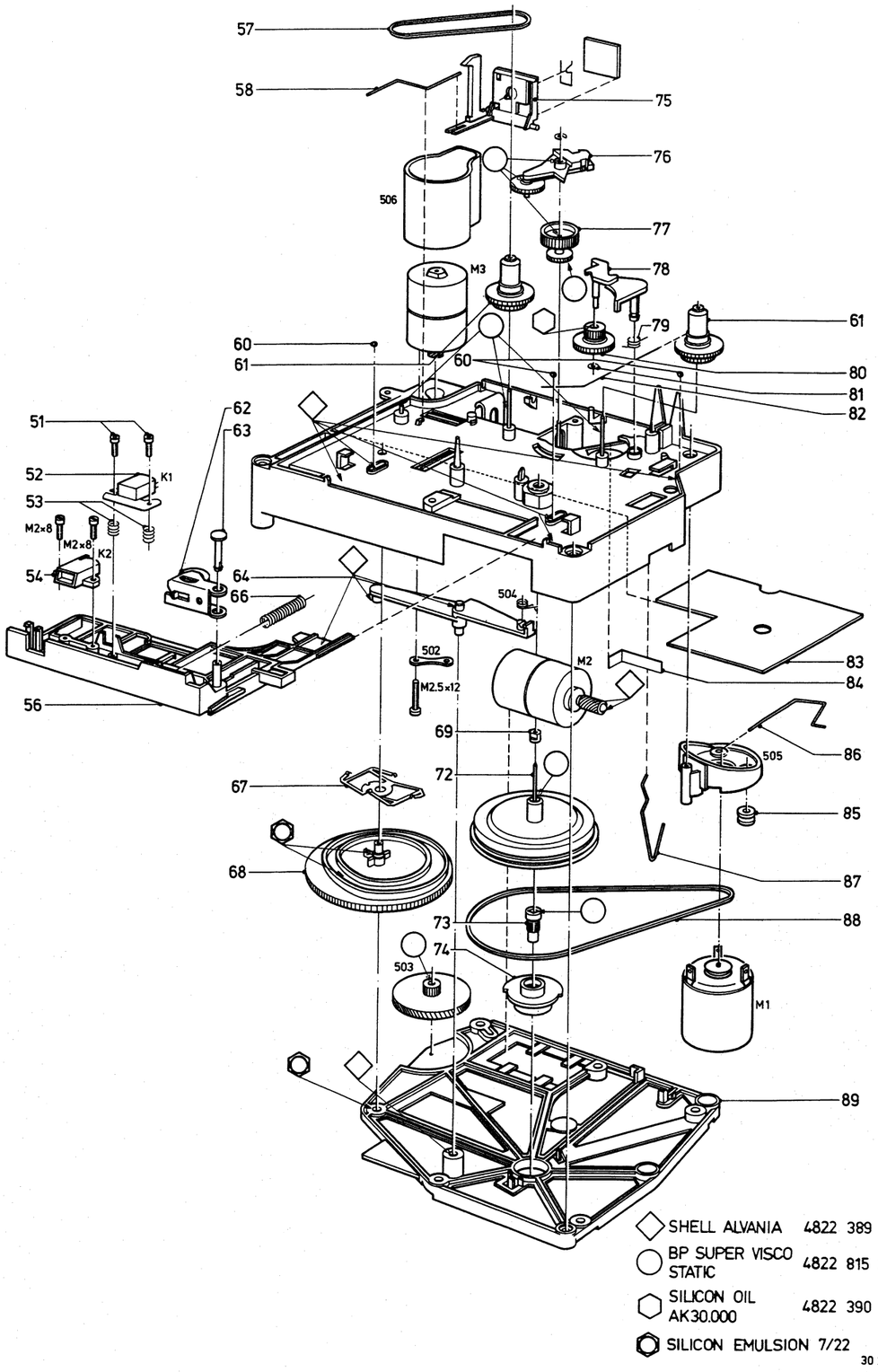


R	355.306.356.305 308 362÷370.336.386.315.391.314.358.316÷320 313.341 390.340 803.802 371.321.801.843 842 805÷809 330.331 816÷819 333.332.322.372 349.399.335.338.388.385.337.334 389.339.387.342÷348	R
	309.300.310.307.359÷361.323÷329.350.311.375.374.373.312 823÷828 832.844.833.845 836÷840 810.829÷831.804.821.820 811÷815 301÷304.351÷354 396.384.346 397.398.394.395.392	
C	302 354.353.305.356.380.330.357.361÷363.304.306 358.308 324.323 359.309 310 322.372 319.368.367.318.317	C
	381.331 301 351 365.315.303 364.314 327.311÷313.329 328 307.326 333 332 325 320.370.321.371	
MISC.	TS301÷303 TS351.TS352.SK309 TS354.TS355 SK310.D352.TS304.TS305 SK308 SK307 D321 SK306.D307.D322 TS309.TS310.SK305 TS307.TS308.SK303.SK302 SK301 BU301 SK304 IC301	MISC.
	D306.D303 TS306.TS356 TS311÷313.D317.D316 D302 D318÷D320 TS316.TS317.TS314 S301.S302 IC302.D311.D308	



30287 E 13/B

CS 94 786



51	4822 502 11454	63	4822 462 71108	76	4822 403 40117	86	4822 492 61989
52	4822 249 10157	64	4822 403 51381	77	4822 522 31318	87	4822 492 62303
53	4822 492 51229	66	4822 492 51334	78	4822 403 51379	88	4822 358 30294
54	4822 249 40107	67	4822 492 62304	79	4822 492 40894	89	4822 520 10446
56	4822 403 51378	68	4822 522 31317	80	4822 522 31319		
57	5322 358 34017	69	4822 520 30296	81	4822 530 70043		
58	4822 492 62302	72	4822 528 60142	82	4822 492 62367		
60	4822 520 40005	73	4822 502 11462	83	4822 218 10133		
61	4822 528 20301	74	4822 528 30236	84	4822 492 62301		
62	4822 403 51071	75	4822 277 10613	85	4822 325 60038		

GB

1. Place the peak of the band-pass curve in the middle of the picture by shifting the sweep frequency.
2. Disconnect C167.
3. Connect C167.

NL

1. De top van de doorlaatkromme in het midden van het scherm plaatsen door verschuiven van de wobbelfrequentie.
2. Verbreek C167.
3. Verbind C167.

F

1. Le top de la courbe de réponse doit être amené au centre de l'écran par glissement de la fréquence de modulation.
2. Déconnecter C167.
3. Connecter C167.

D

1. Die Spitze der Durchlasskurve in der Mitte des Bildes legen dadurch, dass man die Wobbelfrequenz verschiebt.
2. Unterbrechung C167.
3. Verbindung C167.

„ Bei notwendigem Abgleich ist das Gerät auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen."

I

1. Il pico della curva di risposta deve trovarsi al centro dello schermo, il chè si farà spostando la frequenza di Wobbulazione.
2. Togliere il collegamento C167.
3. Collegare C167.

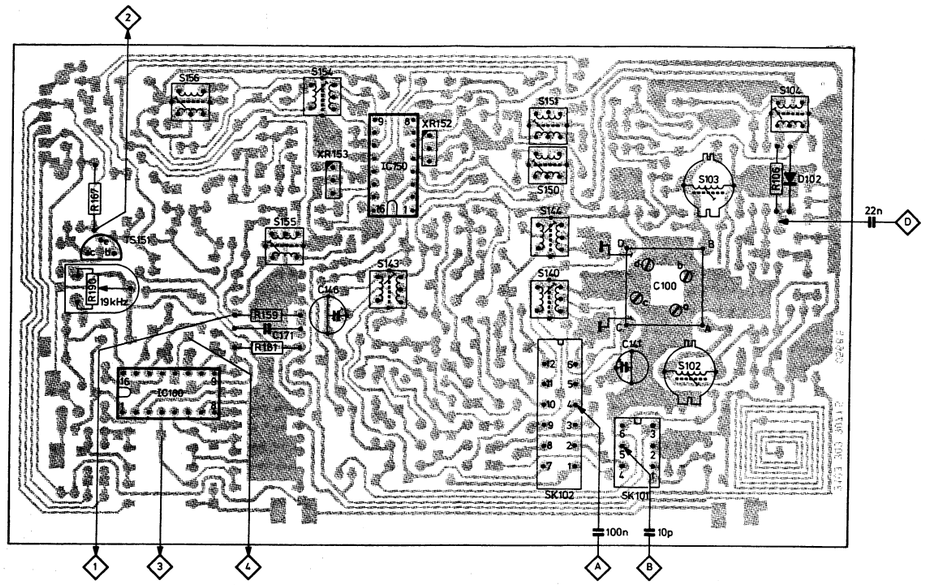
SK			C100			
MW-SK103	468 kHz *	A	Min. cap	S150 S151 S155		1 max.
SW-SK102	5.8 MHz *	B	Max. cap.	S144		1 max.
	18.2 MHz *		Min. cap.	C100d		
	17.0 MHz *			C100c		1 max.
	6.2 MHz *			S140		
MW-SK103	1635 kHz *	C	Min. cap.	C146		1 max.
	512 kHz *		Max. cap.	S143		
	560 kHz *			S141		1 max.
	1500 kHz *			C141		
LW-SK104	148 kHz *	C	Max. cap.	S143		1 max.
	200 kHz *			S142		
FM-IF						
FM-SK101	10.7 MHz $\Delta f = 300$ kHz (50 Hz)	D			2 1	
				S154 S104	max. 2 2	1 max.
				S156	3 3	
FM-RF						
FM-SK101	87.35 MHz Mod. 1 kHz Δf 22,5 KHz	B	Max. cap.	S103** S102**		1 max
	108 MHz Mod. 1 kHz Δf 22,5 kHz		Min. cap.	C100b C100a		

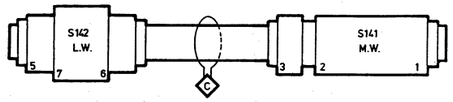
*+ 1 kHz mod. 30%

Stereo-Decoder				
FM-SK101	no signal		R190	4 freq. counter 19 kHz ± 0.2 kHz

**Trimming rod 4822 395 50135

Repeat - Herhalen - Répéter - Wiederholen - Ricomminciare - Repetera - Gentage - Gjentagelse - Toista

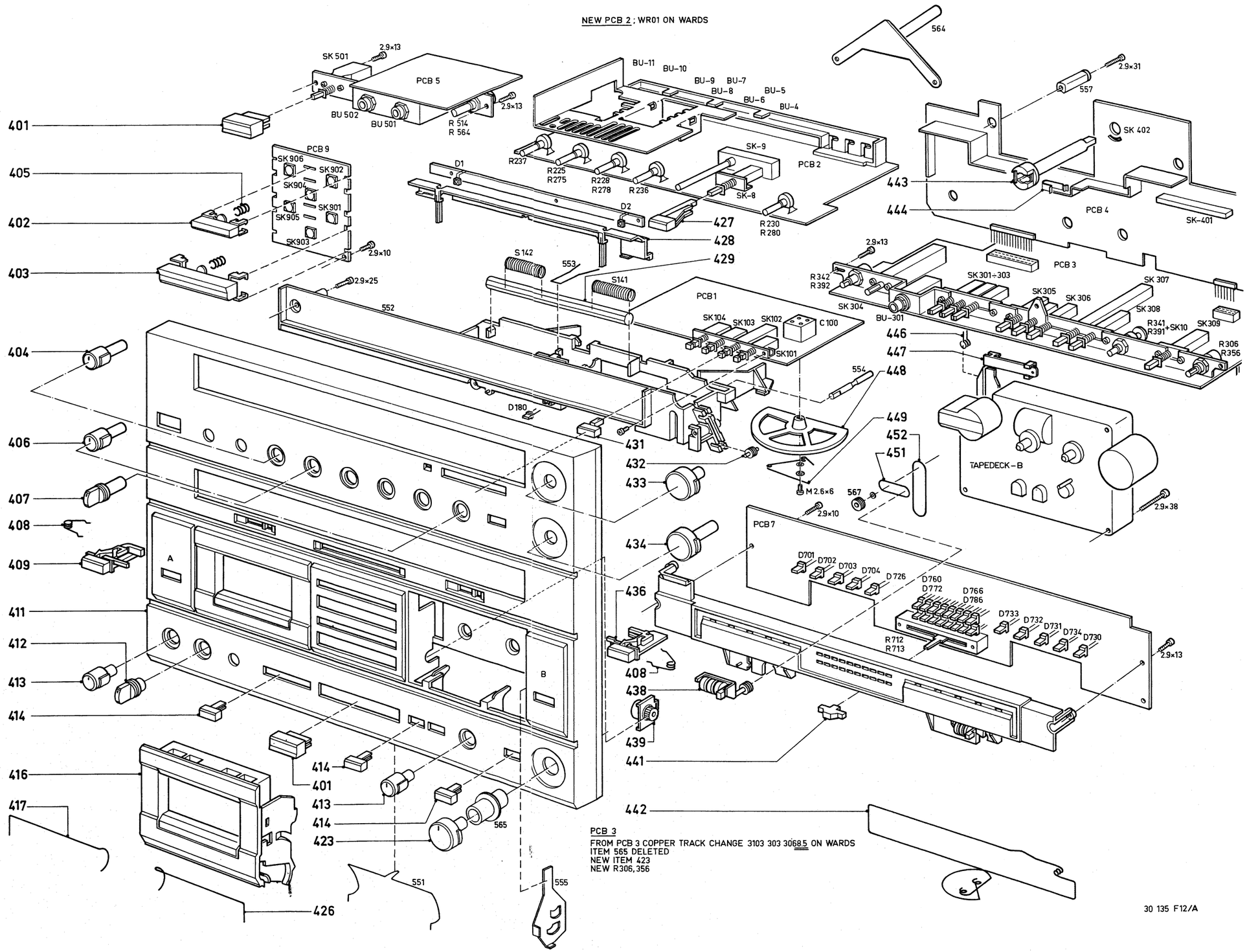




29 977 C12/A

| | | | | | |

401	4822 410 22873
402	4822 410 22871
403	4822 410 22872
404	4822 413 31113
405	4822 492 62809
406	4822 413 31112
407	4822 413 31111
408	4822 492 62796
409	4822 410 22877
411	4822 443 30471
412	4822 413 31114
413	4822 413 31115
414	4822 410 22875
416	4822 443 61048
417	4822 492 62794
423	4822 413 41156
426	4822 492 62795
427	4822 410 22876
428	4822 450 80835
429	4822 526 10182
431	4822 410 22874
432	4822 528 50116
433	4822 413 31116
434	4822 413 41119
436	4822 410 22878
438	4822 349 50136
439	4822 535 70618
441	4822 411 60889
442	4822 321 30214
443	4822 413 41117
444	4822 492 62247
446	4822 492 31734
447	4822 403 30363
448	4822 528 90335
449	4822 492 40799
451	4822 358 20162
452	4822 358 34017
453	4822 492 50824
454	4822 492 62233
456	4822 492 62234
458	4822 498 50145
459	4822 303 30248
461	4822 443 61047
462/..	4822 321 10105
462/05	4822 321 10235



PCB 3
FROM PCB 3 COPPER TRACK CHANGE 3103 303 30685 ON WARDS
ITEM 565 DELETED
NEW ITEM 423
NEW R306,356

30 135 F12/A

-C-		
Tub.cap	680p-50 V	4822 122 31381
Tub.cap	10n-50 V	4822 122 31816
Tub.cap	22n-16 V	4822 122 10166
Tub.cap	47n-25 V	4822 122 31817
Tub.cap	100n-12 V	4822 122 10207
	3300 μ-25 V	4822 124 40378
	340p-630 V	4822 121 50615

-R-		
R190,441 R491	(10 k)	4822 100 10035
R225/275 R228/278		4822 100 20105
R230/280		4822 100 20104
R236		4822 100 20683
R237		4822 100 20103
R306/356		4822 100 20098
R307,440,490 R820,821	(22 k)	4822 100 10051
R341/391 +SK10		4822 10140104
R342/392		4822 100 20098
R804,810	(47 k)	4822 100 10079
R407	(100 R)	4822 100 10075
R514/564		4822 100 20097
R712/713		4822 105 10488

-SK-	
SK101÷104	4822 276 40287
SK-8	4822 276 10897
SK-9	4822 273 10095
SK301÷303	4822 276 30296
SK304	4822 273 30286
SK305÷306÷308	4822 276 50295
SK309	4822 276 11053
SK401	4822 277 20838
SK501	4822 276 11061
SK901,902,903 SK904,905,906	4822 277 30683

-Miscellaneous-		
BU101		4822 267 30384
BU4÷11	(socket bar)	4822 267 50349
BU301		4822 267 30346
BU501,BU502		4822 267 20222
BU601		4822 267 30461
F601	T2A	4822 253 30025
LS1,LS101		4822 240 50179
LS2,LS102		4822 280 10135
Scale		4822 333 50611
T1		4822 146 20772
M1A,M1B		4822 361 20352
M2A,M2B		4822 361 20197
M3A,M3B		4822 361 20198
Screw	2.9x38	4822 502 30235

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

(SF)

Korjatessa lai tetta on turvallisuussyistä ehdottomasti eneteltävä oikein ja käytettävä määräämiä alkuperäisvaraosia.

-IC-

IC150	TEA5570	4822 209 81563
IC180	AN7410	4822 209 80683
IC201	AN7166	4822 209 81503
IC301	TDA2320	4822 209 81432
IC302	NE532V	4822 209 80818
IC701 IC702	U471B	4822 209 81415
IC703 IC704	R-2E02	4822 209 80943

-TS-

TS101(FET)	2SK168E	4822 130 41943
TS311	BD436	4822 130 40995
	BC337-25	4822 130 40981
	BF495D	4822 130 41498
	BC548	4822 130 40938
	BC548A	4822 130 40948
	BC548B	4822 130 40937
	BC548C	4822 130 44196
	BC549	4822 130 40964
	BC550C	4822 130 41096
	BC558B	4822 130 44197

-D-

D1,D2	LN25RP (LED)	4822 130 31923
D180	GL-9NG9 (LED)	4822 130 31433
	LN217RP (LED)	4822 130 31481
	LN417YP (LED)	4822 130 31902
D760,D772	(LED BAR)	4822 130 31471
D766,D786	(LED BAR)	4822 130 31469
	IN4148	4822 130 30621
	OA95	4822 130 30191
	IN4001	4822 130 31438

-D-

D307	BZX79/C6V2	4822 130 31111
D316	BZX79/C4V7	4822 130 34174
D321,322	BZV46/C1V5	5322 130 34865
D601	S2VB	4822 130 30993
D717 D770	BZX79/C5V6	4822 130 34173
D790,791	BAW27	4822 130 30594

-S-

S102,S103	4822 158 10515
S104	4822 153 50206
S140	4822 156 30811
S141	4822 156 10685
S142	4822 156 10691
S143	4822 156 10687
S144	4822 156 10689
S150	4822 156 10688
S151,155	4822 156 10737
S154	4822 156 10686
S156	4822 157 51184
S201,S301, S302	4822 157 50968
S401	4822 156 50026

-C-

C100	Varco	4822 125 50134
C141,C146	1.8-22p	4822 125 50045
XR152,XR153	10.7 MHz	4822 242 70249
Tub.cap	15p-50 V	4822 122 31812
Tub.cap	56p-50 V	4822 122 31813
Tub.cap	68p-50 V	4822 122 31814
Tub.cap	47p-50 V	4822 122 10181
Tub.cap	100p-50 V	4822 122 10183
Tub.cap	150p-50 V	4822 122 31815
Tub.cap	470p-50 V	4822 122 31435
Tub.cap	1n8-50 V	4822 122 31835
Tub.cap	2n2-50 V	4822 122 10175

Carbon film 0.2 W	70°C	5%
Carbon film 0.33 W	70°C	5%
Metal film 0.33 W	70°C	5%
Carbon film 0.5 W	70°C	5%
Carbon film 0.67 W	70°C	5%
Carbon film 1.15 W	70°C	5%

© Chip component

Ceramic plate Tuning ⩽ 120 pF NP.0 Others	2% —20/+80%
Polyester flat foil	10%
Metalized polyester flat film	10%
Polyester flat foil small size (Mylar)	10%
Polysterene film/foil	1%
Tubular ceramic	
Miniature single	
Subminiature tantalum	± 20%

*a = 2,5 V
b = 4 V
c = 6,3 V
d = 10 V
e = 16 V
f = 25 V
g = 40 V
h = 63 V
j = 100 V
l = 125 V
m = 150 V
n = 160 V
q = 200 V
r = 250 V
s = 300 V
t = 350 V
u = 400 V
v = 500 V
w = 630 V
x = 1000 V
A = 1,6 V
B = 6 V
C = 12 V
D = 15 V
E = 20 V
F = 35 V
G = 50 V
H = 75 V
I = 80 V

27 037A/C

CS 94 790